NEET PG 2018 Question Paper

254 recall questions with answers and explanations.

Recall honesty note: NBEMS does not release official papers, so these are memory-based recall questions, not official papers. Image-based questions are excluded for now because the bank's images are currently unavailable.

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Question 1. From where are the nerves associated with the branchial (pharyngeal) arches derived?

A. Mesoderm

B. Endoderm

C. Neural crest

D. Neuroectoderm

Correct answer: C

The pharyngeal (branchial) arches are crucial embryonic structures that give rise to most of the structures of the head and neck. Each arch consists of a core of mesenchyme covered externally by ectoderm and internally by endoderm. The mesenchyme itself is derived from two sources : the mesoderm, which forms the muscular components of each arch, and the neural crest cells. Neural crest cells are a specialized population of migratory cells that originate from the dorsal neural tube

Question 2. The hard palate contains:

A. Keratinized epithelium, submucosa, minor salivary gland

B. Keratinized epithelium, absent submucosal layer, minor salivary gland

C. Non-keratinized epithelium, submucosal layer, minor salivary gland

D. Non-keratinized epithelium, absent submucosa, minor salivary gland

Correct answer: A

The hard palate forms the roof of the oral cavity and is subject to significant friction during mastication. For this reason, its surface is covered by a protective layer of keratinized stratified squamous epithelium. The underlying structure of the hard palate varies by region. In the anterolateral regions, which contain the palatine rugae, the mucous membrane is tightly bound directly to the periosteum of the underlying bone, and a distinct submucosal layer is absent. However, in the posterolateral region, a well-defined submucosa is present. This submucosa is rich in adipose tissue anteriorly and contains numerous minor mucous salivary glands posteriorly, which secrete mucus to lubricate the oral cavity. Since the question refers to the hard palate in general, and the posterolateral part contains both a submucosa and salivary glands, option A is the most comprehensive and correct description. Option B is incorrect

because a submucosa is present in parts of the hard palate. Options C and D are incorrect as the epithelium

Question 3. Which muscle functions to tense the vocal folds?

A. Cricothyroid

B. Lateral Cricoarytenoid

C. Thyroarytenoids

D. Posterior cricoarytenoids

Correct answer: A

The pitch of the voice is primarily controlled by altering the tension and length of the vocal cords. The muscle solely responsible for tensing and elongating the vocal cords is the cricothyroid muscle. It is the only intrinsic laryngeal muscle located on the external surface of the larynx and is uniquely innervated by the external branch of the superior laryngeal nerve. When the cricothyroid muscle contracts, it pulls the thyroid cartilage anteriorly and inferiorly, tilting it forward on the cricoid cartilage. This action increases the distance between the thyroid and arytenoid cartilages, thereby stretching and tensing the vocal ligaments. Tenser vocal cords vibrate at a higher frequency, resulting in the production of a higher-pitched sound. The thyroarytenoid muscles (C), particularly the vocalis part, have the opposite effect; they shorten and relax the vocal cords, lowering the pitch. The lateral cricoarytenoid (B) adducts the cords, and the posterior cricoarytenoid (D) abducts them. Hence, for vocal cord tension and high pitch, the cricothyroid is the key muscle.

Question 4. The ureteric bud develops from:

A. Mesonephros

B. Metanephros

C. Pronephros

D. Genital sinus

Correct answer: A

During the embryonic development of the urinary system, three successive kidney systems form : the pronephros, mesonephros, and metanephros. The definitive, permanent kidney develops from the metanephros. The development of the metanephros itself involves a reciprocal induction between two structures derived from the intermediate mesoderm. The ureteric bud, which gives rise to the entire

Question 5. Which of the following statements about Weber’s syndrome is incorrect?

A. Contralateral hemiplegia

B. Ipsilateral oculomotor nerve palsy

C. Contralateral Parkinsonism

D. Anterior cerebral peduncle involvement

Correct answer: C

Weber's syndrome is a midbrain stroke syndrome caused by an infarction in the territory of the posterior cerebral artery, specifically affecting the anterior cerebral peduncle (D). This area contains two crucial structures : the descending corticospinal and corticobulbar tracts, and the exiting fascicles of the oculomotor nerve (CN III). Therefore, a lesion here produces a characteristic pattern of deficits. It causes an ipsilateral oculomotor nerve palsy (B), leading to a down and out eye position, ptosis, and a dilated pupil on the same side as the lesion. It also affects the corticospinal tract before it decussates, resulting in contralateral hemiplegia or hemiparesis (A), affecting the opposite side of the body. Contralateral Parkinsonism (C) — characterized by tremor, rigidity, and bradykinesia — is caused by damage to the substantia nigra, which is located more dorsally in the midbrain tegmentum. A lesion affecting the substantia nigra along with the red nucleus and CN III causes Benedikt's syndrome, not Weber's. Therefore, contralateral Parkinsonism is not a feature of classic Weber's syndrome.

Question 6. Which of the following statements regarding Sibson’s fascia is not correct?

A. Attached to the inner border of the 2nd rib

B. Covers apical part of lung

C. Part of scalenus anterior muscle

D. Vessels pass above the fascia

Correct answer: D

Sibson's fascia, also called the suprapleural membrane, is a thickening of the endothoracic fascia that covers the apex of the lung. It reinforces the cervical pleura and prevents bulging of the lung apex into the neck during respiration.Statement-wise analysis:A Attached to the inner border of the 2nd rib – Incorrect attachment detail in strict anatomy (it is attached to the inner border of the 1st rib, not the 2nd), but this is often tested carefully.B Covers apical part of lung – Correct. It covers and protects the lung apex.C Part of scalenus anterior muscle – Incorrect wording; it is not a part of the muscle but is derived from the deep cervical fascia and attached to the transverse process of C7.D Vessels pass above the fascia – Incorrect. Major vessels such as the subclavian artery and vein pass anterior to or through the region, not above the fascia.

Question 7. Occlusion of the posterior inferior cerebellar artery (PICA) results in which of the following effects?

A. Lateral medullary syndrome

B. Weber syndrome

C. Medial medullary syndrome

D. None

Correct answer: A

Thrombosis or occlusion of the posterior inferior cerebellar artery (PICA), or the vertebral artery

from which it often arises, is the classic cause of the lateral medullary syndrome, also known as Wallenberg's syndrome. This artery supplies the dorsolateral portion of the medulla oblongata. An infarct in this area damages several key structures, leading to a characteristic constellation of signs. These include vertigo,

Question 8. Which of the following structures does not pass through the aortic hiatus?

A. Azygos vein

B. Aorta

C. Thoracic duct

D. Vagus nerve

Correct answer: D

The aortic hiatus is an opening in the diaphragm at the level of T12 vertebra. It allows important structures to pass between the thorax and abdomen. The main structures that pass through the aortic hiatus are the Aorta, the Thoracic duct, and the Azygos vein.The vagus nerve does not pass through the aortic hiatus. Instead, it passes through the esophageal hiatus (at T10 level) along with the esophagus. Therefore, the Vagus nerve is not a structure that traverses the aortic opening.Hence, the correct answer is (D) Vagus nerve.

Question 9. The costal cartilages of the 8th and 9th ribs form which type of joint?

A. Costochondral joint

B. Inter chondral joint

C. Synchondrosis joint

D. Costovertebral joint

Correct answer: B

The costal cartilages of the 8th and 9th ribs articulate with each other to form interchondral joints. These joints are plane synovial joints formed between the adjacent costal cartilages of the lower ribs (usually 7th–10th ribs). They allow slight gliding movements, which help in the expansion and contraction of the thoracic cavity during respiration.The 8th and 9th ribs are false ribs, and their costal cartilages do not attach directly to the sternum. Instead, they connect to the cartilage of the rib above, forming interchondral joints.Other options are incorrect because:1. Costochondral joints are between the rib and its own costal cartilage.2. Synchondrosis is a primary cartilaginous joint, such as the first sternocostal joint.3. Costovertebral joints are between the ribs and thoracic vertebrae.

Question 10. Chordoma originates from which of the following structures?

A. Pharyngeal bursa

B. Notochord

C. Rathke's pouch

D. Luschka's bursa

Correct answer: B

Chordoma is a rare, slow-growing malignant tumor that arises from remnants of the Notochord. The notochord is an embryological midline structure that plays a crucial role in the development of the vertebral column. Although it largely disappears during development, small remnants may persist in the axial skeleton.Chordomas most commonly occur along the midline, particularly in the sacrococcygeal region and the clivus at the base of the skull, reflecting the original course of the notochord. These tumors are locally aggressive and may cause symptoms due to compression of nearby structures.The other options are unrelated to chordoma formation:1. Pharyngeal bursa is a mucosal recess in the nasopharynx.2. Rathke’s pouch gives rise to the anterior pituitary gland.3. Luschka’s bursa is associated with the nasopharynx.Therefore, chordoma originates from the notochord, making option (B) correct.

Question 11. Which of the following structures is derived from the dorsal mesentery?

A. Greater omentum

B. Lesser omentum

C. Liver

D. Diaphragm

Correct answer: A

The Greater omentum is derived from the dorsal mesentery of the stomach. During embryological development, the primitive gut tube is suspended by two mesenteries: the dorsal mesentery and the ventral mesentery. The dorsal mesentery persists throughout the length

Question 12. Which of the following structures does not belong to the special visceral efferent (SVE) column?

A. Glossopharyngeal Nerve

B. Oculomotor Nerve

C. Vagus Nerve

D. Trigeminal Nerve

Correct answer: B

The special visceral efferent (SVE) column, also known as branchial motor column, supplies muscles derived from the pharyngeal (branchial) arches. Cranial nerves that contain SVE fibers include the Trigeminal nerve, Glossopharyngeal nerve, and Vagus nerve. These nerves innervate muscles of mastication, stylopharyngeus, and muscles of the pharynx and larynx respectively.The Oculomotor nerve does not belong to the SVE column. Instead, it carries general somatic efferent (GSE) fibers that supply extraocular muscles derived from somites, not from branchial arches.Therefore, since the oculomotor nerve is not associated with branchial arch derivatives, it does not form part of the special visceral efferent column. Hence, the correct answer is (B) Oculomotor Nerve.

Question 13. Which of the following statements is incorrect regarding the iliolumbar ligament?

A. Upper fibres attached to iliac crest

B. Lower fibres attached to base of sacrum

C. Help in maintaining lumbosacral ioint stability

D. Upper attachment to tranwerse process ofT12

Correct answer: D

The Iliolumbar ligament is a strong fibrous band that connects the transverse process of the L5 vertebra to the iliac crest. It plays an important role in stabilizing the lumbosacral junction and limiting excessive movement between the lumbar spine and sacrum.The upper fibers of the iliolumbar ligament are attached to the iliac crest, while the lower fibers extend to the base of the sacrum. Its primary function is to help maintain lumbosacral joint stability and prevent anterior displacement of L5 over S1.The statement that its upper attachment is to the transverse process of T12 is incorrect. The ligament is attached to the transverse process of L5, not T12. Therefore, option (D) is the incorrect statement and the correct answer.

Question 14. Which receptors are targeted and blocked in Myasthenia Gravis?

A. Ach receptors

B. Ca++ receptors

C. Na+ receptors

D. Opioid receptors

Correct answer: A

Myasthenia Gravis (MG) is an autoimmune disorder of the neuromuscular junction characterized by fluctuating weakness and

Question 15. What pattern of neurological deficits is characteristic of Brown–Séquard syndrome?

A. Contralateral loss of joint sense and position

B. Contralateral loss of pain

C. Ipsilateral loss of complete sensory functions

D. Contralateral motor functions

Correct answer: B

Brown-Séquard syndrome results from the hemisection (damage to one half) of the spinal cord. This injury produces a unique and characteristic pattern of neurological deficits below the level of the lesion, based on the anatomy of the major spinal tracts. The three key findings are :1. Ipsilateral loss of motor function : Damage to the corticospinal tract, which has already decussated in the medulla, causes paralysis on the same side as the injury.2. Ipsilateral loss of proprioception, vibration, and fine touch : Damage to the dorsal columns, which carry these sensations and do not decussate until the medulla, causes sensory loss on the same side.3.

Contralateral loss of pain and temperature sensation : Damage to the spinothalamic

Question 16. What happens when the ventilation–perfusion (V/Q) ratio becomes infinite?

A. Partial pressure of O2 becomes zero

B. No exchange of O2 & CO2

C. Partial pressure of CO2 alone becomes zero

D. Partial pressure of both CO2 and O2 remain normal

Correct answer: B

The ventilation-perfusion (V/Q) ratio describes the relationship between the amount of air reaching the alveoli (ventilation, V) and the amount of blood flow through the pulmonary capillaries (perfusion, Q). A V/Q ratio of infinity () mathematically implies that ventilation is occurring (V \> 0) but perfusion is absent (Q = 0). This condition is known as alveolar dead space. A classic example is a pulmonary embolism blocking a pulmonary artery. In this scenario, air is moving in and out of the alveoli, but because there is no blood flow to these alveoli, no gas exchange can occur (B). The air within these dead space alveoli will not give up any oxygen to the blood, nor will it receive any carbon dioxide from the blood. As a result, the composition of the alveolar gas in this unit will become identical to that of the inspired air : the partial pressure of O2 will be approximately 150 mmHg, and the partial pressure of CO2 will be effectively zero (C).

Question 17. During which phase of the cardiac cycle does the C wave appear?

A. Iso-volumetric contraction

B. Slow filling at the end of diastole

C. End of systole

D. Start of diastole

Correct answer: A

No explanation is available for this recall question yet.

Question 18. Alpha waves are observed in which physiological state?

A. Sleep

B. REM movements

C. Relaxed state

D. Active state

Correct answer: C

Electroencephalography (EEG) records the electrical activity of the brain using different frequency bands. Alpha waves, which have a frequency of 8-13 Hz, are the dominant brain wave pattern in a normal adult who is in a quiet, relaxed, and wakeful state with their eyes closed. They are most prominent over the occipital and parietal regions of the brain. When the

person opens their eyes or begins to concentrate or perform a mental task (an active state, D), the alpha rhythm is blocked or attenuated and is replaced by faster, lower amplitude beta waves (\>13 Hz). As a person becomes drowsy and falls asleep (A), the alpha waves disappear and are replaced by the slower theta (4-7 Hz) and delta (\<4 Hz) waves characteristic of deeper sleep stages. REM sleep (B) has an EEG pattern that resembles the awake state, with fast, low-voltage activity, but not typically a prominent alpha rhythm. Thus, the classic state for alpha waves is relaxed wakefulness with eyes closed.

Question 19. Which of the following changes occur during hypovolemic shock?

A. Afferent arteriolar constriction

B. Efferent arteriolar constriction

C. Increased blood flow to the kidney

D. Normal cardiac output

Correct answer: A

In hypovolemic shock, there is a significant reduction in circulating blood volume due to causes such as hemorrhage, dehydration, or severe fluid loss. This leads to decreased blood pressure and reduced renal perfusion. To maintain systemic blood pressure and preserve blood flow to vital organs like the brain and heart, the body activates the sympathetic nervous system and the renin–angiotensin–aldosterone system (RAAS).As a compensatory mechanism, the afferent arterioles of the kidney undergo vasoconstriction, reducing renal blood flow and glomerular filtration rate (GFR). This helps conserve fluid and maintain blood pressure. Renal blood flow decreases rather than increases, and cardiac output is usually reduced in hypovolemic shock.Although efferent arteriolar constriction can occur due to angiotensin II, the dominant initial renal response in hypovolemia includes afferent arteriolar constriction to decrease filtration.Therefore, the correct answer is (A) Afferent arteriolar constriction.

Question 20. Which of the following does not contribute to the kidney’s countercurrent mechanism?

A. Sodium outflow in the thick ascending limb

B. Water outflow in the thin descending limb

C. Sodium outflow in the thin ascending limb

D. Flow of tubular fluid from PCT to DCT

Correct answer: D

The countercurrent mechanism in the kidney is responsible for creating a hypertonic medullary interstitium, which allows for the concentration of urine. This involves two main processes : the countercurrent multiplier in the loop of Henle and the countercurrent exchanger in the vasa recta. The key components of the multiplier are :1. The active transport of sodium chloride out of the thick ascending limb (A), which is

Question 21. By which mechanism is glucose absorbed in the intestine?

A. Secondary active transport

B. Facilitated diffusion

C. Simple diffusion

D. Primary active transport

Correct answer: A

The absorption of glucose and galactose from the lumen of the small intestine into the enterocytes occurs primarily via secondary active transport. This process is mediated by the Sodium-Glucose Linked Transporter 1 (SGLT1), which is located on the apical (luminal) membrane of the intestinal epithelial cells. This transporter couples the movement of one molecule of glucose (or galactose) with the movement of two sodium ions into the cell. The transport of sodium down its steep electrochemical gradient (which is maintained by the Na+/K+-ATPase pump on the basolateral membrane, a form of primary active transport) provides the energy to move glucose against its concentration gradient into the cell. Once inside the cell, glucose then exits across the basolateral membrane into the bloodstream via facilitated diffusion (B) through the GLUT2 transporter. Simple diffusion (C) and primary active transport (D) are not the primary mechanisms for luminal glucose uptake.

Question 22. Insulin-like growth factor (IGF) is produced by which of the following sources?

A. Liver

B. Pituitary gland

C. Pancreas

D. Adrenal glands

Correct answer: A

The effects of Growth Hormone (GH), which is secreted by the anterior pituitary gland (B), are largely mediated by a group of hormones called somatomedins, the most important of which is Insulin-like Growth Factor 1 (IGF-1). Growth hormone travels through the bloodstream to the liver, which is the primary site of IGF-1 production (accounting for about 75% of circulating IGF-1). The liver, upon stimulation by GH, synthesizes and secretes IGF-1 into the circulation. This circulating IGF-1 then acts on target tissues throughout the body, such as bone and cartilage, to promote growth and anabolism. This is known as the somatomedin hypothesis. IGF-1 is also produced locally in many other tissues (autocrine/paracrine action), but the liver is the principal source of the endocrine form. The pancreas (C) secretes insulin and glucagon. The adrenal glands (D) secrete corticosteroids, mineralocorticoids, and catecholamines.

Question 23. What is Prosopagnosia?

A. Impairment of consciousness

B. Being unaware of one's problems

C. Difficulty in identifying known faces

D. Failure to identify objects

Correct answer: C

Prosopagnosia, also known as face blindness, is a specific neurological disorder characterized by the inability to recognize or differentiate between faces. A person with prosopagnosia can see the individual parts of a face—eyes, nose, mouth—but cannot process them as a coherent whole to identify the person, even if they are very familiar, such as family members or even themselves in a mirror. It is a highly specific form of visual agnosia. The impairment is limited to face recognition; they can still identify people through other cues like their voice, hairstyle, or clothing. It is typically caused by damage to the fusiform gyrus in the inferior temporal cortex,

Question 24. Aldostercne synthesis ls stimulated by whlch of the following?

A. Adrenocorticotropic hormone(ACTH)

B. Hyperkalemia

C. Hypernatremia

D. Exogenous steroids

Correct answer: B

Aldosterone is synthesized in the zona glomerulosa of the adrenal cortex. Its secretion is primarily regulated by the renin–angiotensin–aldosterone system (RAAS) and plasma potassium levels. An increase in serum potassium concentration (hyperkalemia) directly stimulates the adrenal cortex to release aldosterone.Elevated potassium levels depolarize the zona glomerulosa cells, leading to increased aldosterone secretion. Aldosterone then acts on the distal tubules and collecting ducts of the kidney to promote sodium reabsorption and potassium excretion, thereby restoring normal potassium levels.Although adrenocorticotropic hormone (ACTH) has a minor stimulatory effect, it is not the primary regulator of aldosterone secretion. Hypernatremia suppresses aldosterone release, and exogenous steroids typically inhibit endogenous adrenal hormone production through negative feedback mechanisms.Therefore, hyperkalemia is the most potent direct stimulus for aldosterone synthesis, making option (B) the correct answer.

Question 25. Lesch–Nyhan syndrome, a rare X-linked recessive disorder characterized by hyperuricemia and self-mutilation, is caused by a deficiency of which enzyme?

A. Fumarylacetoacetate hydrolase

B. p-hydroxyphenylpyruvate dehydrogenase

C. Tyrosine transaminase

D. Tyrosine ligase

Correct answer: A

.The term tyrosinosis is an older term, but the condition it most often refers to is Hereditary

Tyrosinemia Type 1 (HT1), which is the most common and most severe inborn error of tyrosine metabolism. HT1 is caused by a deficiency of the enzyme fumarylacetoacetate hydrolase (FAH). This is the final enzyme in the degradation pathway of the amino acid tyrosine. The deficiency of FAH leads to the accumulation of toxic upstream metabolites, particularly fumarylacetoacetate and maleylacetoacetate, and their derivatives succinylacetone and succinylacetoacetate. These toxic compounds accumulate in the liver and kidneys, leading to severe and progressive liver failure, hepatocellular carcinoma, renal tubular dysfunction (Fanconi syndrome), and neurological crises. Deficiency of p-hydroxyphenylpyruvate dioxygenase (B) causes tyrosinemia type 3, and deficiency of tyrosine aminotransferase (C) causes tyrosinemia type2 (oculocutaneous tyrosinemia), both of which are generally less severe than HT1.

Question 26. Lesch–Nyhan syndrome arises due to a deficiency of which enzyme?

A. Orotate Phosphoribosyltransferase

B. Uracil phosphoribosyltransferase

C. Quinolinate Phosphoribosyltransferase

D. Hypoxanthine-guanine phosphoribosyltransferase (HGPRT)

Correct answer: D

Hypoxanthine-guanine phosphori bosyltrans ferase (HGPRT)Lesch-Nyhan syndrome is a rare, X-linked recessive disorder of purine metabolism. It is caused by a severe deficiency of the enzyme hypoxanthine-guanine phosphoribosyltransferase (HGPRT). This enzyme is a key component of the purine salvage pathway, responsible for recycling the purine bases hypoxanthine and guanine back into the purine nucleotide pool (forming IMP and GMP, respectively). When HGPRT is deficient, these purine bases cannot be salvaged and are instead degraded into uric acid. Furthermore, the lack of salvage leads to a feedback-driven increase in de novo purine synthesis. The combination of these effects results in a massive overproduction and accumulation of uric acid (hyperuricemia). This leads to the clinical manifestations of the disease, which include severe gouty arthritis, kidney stones, and the pathognomonic neurological features of cognitive impairment, dystonia, and compulsive self-injurious behavior.

Question 27. Fish odor syndrome results from a deficiency of which enzyme?

A. Fumarylacetoacetate hydrolase

B. Methane monooxygenase

C. Monooxygenase 3 (FMO3)

D. D-amino acid oxidase

Correct answer: C

Fish odor syndrome, also known as trimethylaminuria, is a rare metabolic disorder characterized by the secretion of a strong, offensive fishy odor in the sweat, urine, and breath. This condition is caused by a genetic deficiency of the enzyme flavin-containing

monooxygenase 3 (FMO3). The FMO3 enzyme is produced primarily in the liver and is responsible for metabolizing various nitrogen- and sulfur-containing compounds. Its main function in this context is to oxidize the volatile

Question 28. Galactosemia occurs due to a deficiency of which enzymes?

A. Galactose-1-phosphate uridyltransferase

B. HGPRT

C. Galactokinase

D. Epimerase

Correct answer: A

Galactosemia refers to a group of inherited disorders of galactose metabolism. The most common and most severe form is classic galactosemia, which is caused by a profound deficiency of the enzyme galactose-1-phosphate uridyltransferase (GALT). This enzyme is crucial for the Leloir pathway, which converts galactose into glucose. A deficiency of GALT leads to the accumulation of the toxic metabolite galactose-1-phosphate, as well as galactitol, in various tissues. This accumulation in an infant who is consuming milk (which contains lactose, a disaccharide of glucose and galactose) leads to the severe clinical manifestations of failure to thrive, vomiting, liver failure, cataracts, and intellectual disability. Deficiencies in the other enzymes of the pathway cause different forms of galactosemia : galactokinase (GALK) deficiency (C) causes cataracts but not the other systemic symptoms, and UDP-galactose-4-epimerase (GALE) deficiency (D) is typically benign. HGPRT (B) is deficient in Lesch-Nyhan syndrome.

Question 29. Which of the following is the predominant end product of fatty acid synthesis?

A. Oleic acid

B. Palmitic acid

C. Arachidonic acid

D. Glucose

Correct answer: B

No explanation is available for this recall question yet.

Question 30. Which of the following is true about DNA polymerase I:

A. It removes RNA primers and fills in gaps on the lagging strand

B. It is absent in prokaryotic organisms

C. It synthesizes RNA primers during DNA replication

D. lt is the primary enzyme respoosible for DNA strand elongation during replication

Correct answer: A

DNA polymerase I is an important enzyme involved in DNA replication in prokaryotic organisms.

Its key function is the removal of RNA primers that are laid down during the synthesis of Okazaki fragments on the lagging strand. DNA polymerase I possesses a unique 5′→3′ exonuclease activity, which enables it to remove these RNA primers.After removing the RNA primer, DNA polymerase I simultaneously fills the resulting gap by adding DNA nucleotides using its 5′→3′ polymerase activity. This ensures continuity of the DNA strand. However, DNA polymerase I is not the primary enzyme responsible for DNA strand elongation; that role is performed by DNA polymerase III.

Question 31. What do chaperones assist in:

A. Protein Cleavage

B. Protein Folding

C. Protein Degradation

D. Protein Modification

Correct answer: B

Chaperones, also known as heat shock proteins (HSPs), are a functionally related group of proteins whose primary role is to assist in the correct folding of other proteins. As a newly synthesized polypeptide chain emerges from the ribosome, it must fold into a specific, stable three-dimensional conformation to become biologically active. This process is complex and prone to errors, such as misfolding and aggregation. Chaperones bind to unfolded or partially folded polypeptide chains, preventing them from aggregating and facilitating their correct folding into the proper functional structure. They do not form part of the final protein structure but act as catalysts for the folding process. They are also involved in refolding proteins that have been denatured by stress (like heat shock) and in assembling multi-protein complexes. They are not primarily involved in cleavage (A), degradation (C), or post-translational modification (D) of proteins.

Question 32. A fishy body odor may result from a dietary deficiency of which vitamin?

A. Biotin

B. Thiamine

C. Riboflavin

D. Vitamin A

Correct answer: C

Fish odor syndrome (trimethylaminuria) is primarily caused by a genetic deficiency of the enzyme FMO3. However, a secondary or acquired form of the condition can occur. The FMO3 enzyme requires flavin adenine dinucleotide

Question 33. In which condition is VMA excreted in the urine?

A. Alkaptonuria

B. Phenylketonuria

C. Pheochromocytoma

D. Diabetic ketoacidosis

Correct answer: C

Vanillylmandelic acid (VMA) is one of the major end-product metabolites of the catecholamines, epinephrine and norepinephrine. These hormones are produced by the adrenal medulla and the sympathetic nervous system. A pheochromocytoma is a rare neuroendocrine tumor, usually arising from the chromaffin cells of the adrenal medulla, that secretes excessive amounts of catecholamines. This leads to the classic symptoms of episodic hypertension, palpitations, headaches, and sweating. The diagnosis of pheochromocytoma is confirmed by biochemical testing that demonstrates this catecholamine excess. The most common diagnostic tests are the measurement of fractionated metanephrines (intermediate metabolites) in the plasma or a24-hour urine collection, and the measurement of total catecholamines and VMA in a24-hour urine sample. Elevated urinary VMA is a strong indicator of a catecholamine-secreting tumor like a pheochromocytoma. The other conditions are unrelated metabolic disorders.

Question 34. All of the following amino acids show defective reabsorption in cystinuria, except:

A. Lysine

B. Citrulline

C. Arginine

D. Ornithine

Correct answer: B

Cystinuria is an inherited autosomal recessive disorder characterized by a defect in the transport of specific amino acids in the renal proximal tubules and the small intestine. The defective transporter is responsible for the reabsorption of dibasic amino acids. A useful mnemonic to remember the affected amino acids is COLA :Cystine (which is formed by the dimerization of two cysteine molecules)1. Ornithine2. Lysine3. ArginineThe failure to reabsorb these amino acids from the glomerular filtrate leads to their high concentration in the urine. While ornithine, lysine, and arginine are relatively soluble, cystine is poorly soluble, especially in acidic urine. This leads to the precipitation of cystine crystals and the formation of recurrent cystine kidney stones. Citrulline is a neutral amino acid and is transported by a different system, so its reabsorption is not affected in cystinuria.

Question 35. Fibrinopeptides A and B are acidic because they contain which amino acids in their structure?

A. Serine and threonine

B. Glutamate and aspartate

C. Histidine and lysine

D. Glutamine and valine

Correct answer: B

The final step in the blood coagulation cascade is the conversion of the soluble plasma protein fibrinogen into insoluble fibrin, which forms the meshwork of the clot. This conversion is catalyzed by the enzyme thrombin. Fibrinogen is a large protein composed of three pairs of polypeptide chains. The central domain of the molecule contains several short peptide sequences called fibrinopeptides A and B. These fibrinopeptides are highly enriched in the acidic

Question 36. Deficiency of which enzyme leads to Lesch–Nyhan syndrome?

A. Hypoxanthine-guanine phosphoribosyltransferase (HGPRT)

B. Xantiine oxidase

C. Adeninephosphoribosyltransferase[APRT]

D. AMP deaminase

Correct answer: A

Hypoxanthine-guanine phosphoribosy ltransferase (HGPRT)Lesch–Nyhan syndrome is caused by a deficiency of Hypoxanthine-guanine phosphoribosyltransferase, an enzyme involved in the purine salvage pathway. HGPRT normally converts hypoxanthine and guanine into their respective nucleotides (IMP and GMP), allowing purines to be reused efficiently.When HGPRT is deficient, purines cannot be salvaged and are instead degraded into uric acid, leading to hyperuricemia. Clinically, this results in gout, kidney stones, neurological dysfunction, and the characteristic self-mutilating behavior seen in Lesch–Nyhan syndrome. The disorder follows an X-linked recessive inheritance pattern.The other enzymes listed are not responsible for this condition. Therefore, the correct answer is (A) Hypoxanthine-guanine phosphoribosyltransferase (HGPRT).

Question 37. Phetrylketonurla is due to deffciency of:

A. Phenylalanine

B. Phenylalanine hydrorylase IPAH)

C. Phenylene

D. All ofthe above

Correct answer: B

Phenylalanine hydroxylase (PAH)Phenylketonuria (PKU) is caused by a deficiency of Phenylalanine hydroxylase, the enzyme responsible for converting phenylalanine into tyrosine in the liver. When this enzyme is deficient, phenylalanine accumulates in the blood and is converted into phenylketones, which are toxic to the developing brain.

Question 38. By which method is foreign DNA introduced into a cell using a virus or viral vector?

A. Transduction

B. Transcription

C. Lysogenic conversion

D. Transformation

Correct answer: A

Transduction is the process by which foreign DNA is introduced into a host cell using a virus or viral vector. In this method, a bacteriophage (virus that infects bacteria) or other viral vector carries genetic material from one cell and transfers it into another cell. The viral vector acts as a delivery system, allowing the foreign DNA to enter the host cell efficiently.This technique is widely used in genetic engineering and gene therapy to introduce specific genes into target cells. It differs from transformation, where cells directly take up naked DNA from their surroundings, and from transcription, which is the process of RNA synthesis from DNA.Therefore, the correct answer is (A) Transduction.

Question 39. Which one of the following exhibits allosteric inhibition?

A. Malonic acid & succinate

B. 2,3 BPG affecting hemoglobin oxygen affinity

C. Amino acid alanine & pyruvate kinase

D. Pepsin breaking down proteins in the stomach

Correct answer: C

Allosteric inhibition occurs when a molecule binds to an enzyme at a site other than the active

Question 40. HIAA in urine present in:

A. Alkaptonuria

B. Albinism

C. Carcinoid syndrome

D. Phenylketonuria

Correct answer: C

5-Hydroxyindoleacetic acid (5-HIAA) is the main breakdown product (metabolite) of the neurotransmitter and hormone serotonin (5-hydroxytryptamine). Carcinoid tumors are rare, slow-growing neuroendocrine tumors that can arise in various parts of the body, most commonly in the gastrointestinal tract and lungs. These tumors are capable of producing and secreting large quantities of serotonin and other vasoactive substances. When the tumor is large or has metastasized to the liver (bypassing first-pass metabolism), the excessive serotonin enters the systemic circulation, causing the flushing, diarrhea, bronchospasm, and cardiac fibrosis characteristic of carcinoid syndrome. The diagnosis is confirmed by measuring elevated levels of the serotonin metabolite, 5-HIAA, in a24-hour urine collection. The other listed conditions are unrelated inborn errors of amino acid metabolism that do not affect serotonin levels.

Question 41. A middle-aged man suffered severe burns from a cooking gas cylinder explosion. He was initially stabilized, but 5 days later developed melena (black stools), hypotension, and a hematocrit of 0%. He subsequently deteriorated and died.At autopsy, which organ is most likely to exhibit stress-induced gastrointestinal ulcerations?

A. Esophagus

B. Ileum

C. Duodenum

D. Stomach

Correct answer: D

Severe burns can lead to stress ulcers due to hypovolemia, reduced gastric mucosal perfusion, and increased gastric acid secretion. These ulcers are most commonly found in the Stomach, particularly in the body and fundus.Patients may present with melena (black stools), hypotension, and anemia from gastrointestinal bleeding, as described in this case. Curling

Question 42. CD59, a complement regulatory protein that protects red blood cells from complement-mediated lysis, is deficient in which disorder, leading to intravascular hemolysis?

A. Paroxysmal nocturnal hemoglobinuria (PNH)

B. PTEN hamartoma tumor syndrome (PHTS)

C. BRR (Bannayan-Riley-Ruvalcaba syndrome)

D. Cowden syndrome

Correct answer: A

Paroxysmal nocturnal hemoglobinuria (PNH) is an acquired clonal hematopoietic stem cell disorder characterized by complement-mediated intravascular hemolysis. The underlying cause is a somatic mutation in the PIGA gene, which is required for the synthesis of the glycosylphosphatidylinositol (GPI) anchor. This anchor is used to attach dozens of proteins to the cell surface. In PNH, affected blood cells lack all GPI-anchored proteins. Two of the most important of these are CD55 (Decay-Accelerating Factor) and CD59 (Membrane Inhibitor of Reactive Lysis). CD59 is a crucial protein that normally protects cells from damage by the complement system by preventing the formation of the terminal membrane attack complex (MAC). The absence of CD59 on PNH red blood cells makes them exquisitely sensitive to destruction by complement, leading to chronic hemolysis. The diagnosis of PNH is confirmed by using flow cytometry to demonstrate the absence of CD59 and CD55 on blood cells.

Question 43. Which of the following is an opsonin?

A. C3a

B. C3b

C. C5a

D. C6

Correct answer: B

Opsonization is a critical process in the immune system where pathogens or particles are coated with proteins called opsonins. This coating enhances the ability of phagocytic cells, such as macrophages and neutrophils, to recognize, engulf, and destroy the pathogen. The complement system is a major source of opsonins. When the complement cascade is activated, the central component, C3, is cleaved into two fragments : C3a and C3b. The smaller fragment, C3a, is an anaphylatoxin that promotes inflammation. The larger fragment, C3b, is the most important and abundant opsonin produced by the complement system. It covalently binds to the surface of pathogens. Phagocytic cells have specific complement receptors (like CR1) that recognize and bind to the deposited C3b, triggering efficient phagocytosis. While IgG antibodies are also major opsonins, C3b is the key opsonin from the complement pathway. C5a (C) is also an anaphylatoxin and a powerful chemoattractant for neutrophils.

Question 44. Bernard–Soulier syndrome occurs due to a deficiency of which factor?

A. Gp 2b/3a

B. Gp1b

C. von Willebrand factor (vWF)

D. Tumor necrosis factor (TNF)

Correct answer: B

Bernard-Soulier syndrome is a rare, inherited bleeding disorder characterized by a defect in primary hemostasis (platelet plug formation). It is an autosomal recessive condition caused by a quantitative or qualitative deficiency of the glycoprotein Ib-IX-V complex (GpIb-IX-V) on the surface of platelets. The GpIb component of this complex serves as the primary receptor for von Willebrand factor (vWF). This GpIb-vWF interaction is essential for the initial step of platelet adhesion to the exposed subendothelium at a site of vascular injury, especially under conditions of high shear stress.

Question 45. Stellate granulomas are found in which condition?

A. Sarcoidosis

B. Cat scratch disease

C. Cryptococcosis

D. Histoplasmosis

Correct answer: B

A stellate granuloma, also known as a suppurative granuloma, is a specific type of granulomatous inflammation characterized by a central area of necrosis and neutrophilic abscess formation, surrounded by palisading histiocytes and lymphocytes, often forming a star-like (stellate) shape. This histological finding, while not entirely specific, is highly characteristic of a few conditions. The most classic association is with Cat Scratch Disease,

which is an infection caused by the bacterium Bartonella henselae, typically transmitted by a scratch or bite from a kitten. The infection causes regional lymphadenopathy, and a biopsy of the affected lymph node will reveal these characteristic stellate, necrotizing granulomas. This finding is also seen in lymphogranuloma venereum

Question 46. Which of the following best explains the Flipping effect?

A. LDH 1 \> LDH 2

B. LDH2 \> LDH1

C. LDH 2 LDH 3

D. LDH3 \> LDH 2

Correct answer: A

Lactate dehydrogenase (LDH) is an enzyme that exists as five different isoenzymes (LDH1 to LDH5), which have different tissue distributions. In normal serum, the concentration of the isoenzymes follows the pattern LDH2 \> LDH1 \> LDH3 \> LDH4 \> LDH5. The heart muscle is particularly rich in LDH1, while red blood cells are also rich in LDH1 and LDH2. In the setting of an acute myocardial infarction (MI), damaged cardiac muscle cells release their contents, including large amounts of LDH1, into the bloodstream. This causes the serum level of LDH1 to rise significantly, to the point where its concentration exceeds that of LDH2. This reversal of the normal ratio, where LDH1 \> LDH2, is known as the flipped pattern or flipping effect. While troponins are now the preferred cardiac markers, the LDH flip was historically a key and relatively specific indicator of myocardial infarction, typically appearing 12-24 hours after the onset of chest pain.

Question 47. Nude mice fail to reject xenografts because they lack which of the following?

A. B cells

B. T cells

C. Both B and T cells

D. None

Correct answer: B

Nude mice are a strain of laboratory mice that have a genetic mutation (Foxn1 gene) causing a congenital absence or severe hypoplasia of the thymus. The thymus is the primary lymphoid organ where T-lymphocytes (T cells) mature and are selected. Consequently, nude mice

Question 48. Which of the following represents an epithelial tumor of the stomach?

A. Carcinoid

B. Lymphoma

C. GIST (Gastrointestinal Stromal Tumor)

D. Gastric adenocarcinoma

Correct answer: D

Tumors are classified based on their cell of origin. Epithelial tumors arise from the epithelial cells that line the surfaces and glands of organs. The most common type of cancer in the stomach, accounting for over 90% of all gastric malignancies, is gastric adenocarcinoma. This is a malignant tumor that arises from the glandular epithelial cells of the gastric mucosa. In contrast, the other tumors listed are non-epithelial. A carcinoid tumor (A) is a neuroendocrine tumor arising from

Question 49. Which of the following disorders is inherited in an X-linked dominant manner?

A. Color blindness

B. Vitamin D resistant rickets

C. Achondroplasia

D. Familial hypercholesterolemia

Correct answer: B

This question tests knowledge of inheritance patterns. Vitamin D-resistant rickets, also known as X-linked hypophosphatemia, is the most common form of hereditary rickets and is a classic example of an X-linked dominant disorder. In this inheritance pattern, an affected father will pass the disorder to all of his daughters but none of his sons, while an affected mother has a 50% chance of passing it to each child, regardless of sex. The condition is caused by a mutation in the PHEX gene on the X chromosome, leading to renal phosphate wasting. Color blindness (A) is an X-linked recessive disorder. Achondroplasia (C) and familial hypercholesterolemia (D) are both autosomal dominant disorders. The key feature distinguishing it from X-linked recessive is that affected males have affected daughters, and affected females can have affected sons and daughters.

Question 50. PAS-positive macrophages are characteristically observed in which of the following conditions?

A. Whipple's disease

B. Crohn's disease

C. AIDS

D. None of the above

Correct answer: A

Whipple’s diseasePAS-positive macrophages are a hallmark histopathological feature of Whipple’s disease, a rare chronic systemic infection caused by the bacterium Tropheryma whipplei. In this condition, large numbers of foamy macrophages accumulate in the lamina propria of the small intestine, particularly in the duodenum and jejunum. These macrophages contain glycoprotein-rich bacterial remnants that stain strongly with Periodic Acid–Schiff (PAS), giving them a distinctive magenta appearance under the microscope. The disease interferes

with normal intestinal absorption, leading to symptoms such as chronic diarrhea, weight loss, malnutrition, abdominal pain, and sometimes joint pain or neurological manifestations. Although PAS staining can highlight certain organisms or cellular components in other diseases, the presence of abundant PAS-positive macrophages in intestinal biopsies is considered highly characteristic of Whipple's disease. Crohn's disease and AIDS do not typically show this specific pathological finding, making option A the correct answer.

Question 51. What does the term "pathology" mean?

A. Work

B. Study of diseases

C. Details

D. Function

Correct answer: B

Pathology is the branch of medical science that deals with the study of diseases, including their causes, development, structural changes, and effects on the body. It forms the scientific foundation of modern medicine by helping clinicians understand how normal physiological processes are altered in disease states. Pathologists examine tissues, cells, body fluids, and organs using laboratory techniques such as microscopy, molecular testing, and biochemical analysis to diagnose diseases and determine their severity. The field is broadly divided into anatomical pathology (study of structural changes in tissues and organs) and clinical pathology (laboratory analysis of blood, urine, and other body fluids). The word "pathology" originates from Greek roots: pathos meaning suffering or disease, and logos meaning study. Therefore, the term literally translates to the study of disease processes, making option B the correct answer.

Question 52. Which statement correctly describes Hemophilia A?

A. Serum levels of factor VIII are decreased

B. Deficiency of factor IX

C. PT increased

D. None of the above

Correct answer: A

Hemophilia A is a hereditary bleeding disorder caused by a deficiency or dysfunction of clotting factor VIII. It follows an X-linked recessive inheritance pattern and therefore primarily affects males, while females are usually carriers. Factor VIII plays a crucial role in the intrinsic pathway of the coagulation cascade; its deficiency leads to impaired thrombin generation and unstable clot formation. Laboratory findings typically show a prolonged activated partial thromboplastin time (aPTT) with a normal prothrombin time (PT), since the

Question 53. Which of the following features characterize anaplasia?

A. Changing one type of epithelium to another

B. Nuclear chromatin

C. Lack of differentiation

D. Morphological changes

Correct answer: C

Anaplasia is a term used in pathology to describe a lack of differentiation in cancer cells. It is considered a hallmark of malignancy. Differentiation is the extent to which neoplastic cells resemble their normal, mature counterparts, both morphologically and functionally. Anaplastic cells have lost this resemblance and appear primitive and undifferentiated. Histologically, anaplasia is characterized by several specific morphological changes (D is too general), including :1. Pleomorphism : Marked variation in the size and shape of cells and their nuclei.2. Abnormal nuclear morphology : The nuclei are often hyperchromatic (darkly stained), large, and have an increased nuclear-to-cytoplasmic ratio.3. Mitoses : Numerous and often atypical mitotic figures.4. Loss of polarity : Disorganized arrangement of cells.5. Metaplasia is the change from one cell type to another (A). While changes in nuclear chromatin (B) are a feature of anaplasia, the over arching concept it represents is the fundamental lack of differentiation.

Question 54. What prolactin level is considered diagnostic of a prolactinoma?

A. 300 ng/ml

B. 150 ng/ml

C. 200 ng/ml

D. 100 ng/ml

Correct answer: A

Hyperprolactinemia (elevated serum prolactin) can have many causes, including medications, pregnancy, hypothyroidism, and pituitary stalk compression. However, the degree of elevation is a strong indicator of the underlying cause. Mild to moderate elevations (e.g., 25-150 ng/mL) can be caused by various factors. In contrast, a markedly elevated prolactin level is highly specific for a prolactin-secreting pituitary adenoma (prolactinoma). While there is no single absolute cutoff, a serum prolactin level greater than 200-250 ng/mL is almost always indicative of a prolactinoma, most likely a macroprolactinoma (\>1 cm in size). Therefore, a level of 300 ng/mL is definitively diagnostic of a prolactinoma and effectively rules out other causes of hyperproteinemia. The options of 100, 150, and 200 ng/mL are in a range that is highly suspicious but could still potentially be caused by stalk compression or certain drugs, whereas a level of 300 ng/mL is considered diagnostic.

Question 55. Laxative abuse leads to the formation of which type of renal stones?

A. Uric acid

B. Ammonium urate

C. Struvite

D. Calcium oxalate

Correct answer: B

Chronic abuse of laxatives leads to a specific metabolic state that predisposes to the formation of ammonium urate stones. The primary mechanism involves significant fluid and electrolyte loss from the gastrointestinal tract, leading to chronic volume depletion and hypokalemia. The volume depletion results in a concentrated and persistently acidic urine. Concurrently, the body attempts to conserve potassium, which leads to increased renal ammonia production. This combination of

Question 56. Endometrial carcinoma is linked to mutations in which tumor-suppressor gene?

A. P53

B. PTEN

C. Rb

D. Ras

Correct answer: B

Endometrial carcinomas are broadly divided into two main types. Type I (endometrioid) endometrial carcinoma is the most common type (about 80% of cases). It is typically low-grade, associated with unopposed estrogen stimulation, and carries a favorable prognosis. The most common and earliest genetic alteration found in this type of cancer is a loss-of-function mutation in the PTEN (Phosphatase and Tensin Homolog) tumor suppressor gene. The PTEN protein is a phosphatase that acts as a crucial negative regulator of the PI3K/AKT signaling pathway, which is a major pathway controlling cell growth, proliferation, and survival. Loss of PTEN function leads to constitutive activation of this pathway, promoting uncontrolled cell growth and tumorigenesis. In contrast, Type II (serous) endometrial carcinoma is more aggressive, not related to estrogen, and is most commonly associated with mutations in the p53 tumor suppressor gene (A).

Question 57. The chromosome involved in myotonic dystrophy is?

A. Chromosome 19

B. Chromosome 20

C. Chromosome 21

D. Chromosome 22

Correct answer: A

Myotonic dystrophy type 1 (DM1), the most common form of muscular dystrophy in adults, is an autosomal dominant genetic disorder. It

Question 58. TRALI (Transfusion-Related Acute Lung Injury) occurs within how many hours of transfusion?

A. 48 Hrs

B. 72 Hrs

C. 6 Hrs

D. 12 Hrs

Correct answer: C

Transfusion-Related Acute Lung Injury (TRALI) is one of the most serious and leading causes of transfusion-related mortality. It is a clinical syndrome of acute, non-cardiogenic pulmonary edema that is temporally related to a blood product transfusion. The key diagnostic criterion for TRALI is the onset of acute lung injury (hypoxemia and bilateral infiltrates on chest X-ray) that occurs during or within 6 hours of the completion of a transfusion. The pathophysiology is thought to involve a two-hit mechanism. The first hit is the patient's underlying clinical condition (e.g., sepsis, surgery) that primes pulmonary neutrophils. The second hit is the transfusion of donor plasma containing anti-leukocyte antibodies (anti-HLA or anti-HNA) or other biological response modifiers, which activate these primed neutrophils in the lung vasculature, leading to capillary leak and acute lung injury. The 6-hour time frame is a critical part of the diagnostic definition.

Question 59. Which condition is most commonly associated with cryoglobulinemia?

A. Hepatitis C

B. Ovarian cancer

C. Diabetes

D. Leukemia

Correct answer: A

Cryoglobulinemia is a disorder characterized by the presence of abnormal immunoglobulins (cryoglobulins) in the blood that precipitate at low temperatures and dissolve upon warming. These proteins can deposit in small and medium-sized blood vessels, leading to inflammation known as cryoglobulinemic vasculitis. The condition is most strongly associated with chronic Hepatitis C virus (HCV) infection, which accounts for the majority of mixed cryoglobulinemia cases worldwide. Persistent viral infection stimulates continuous immune activation, resulting in the formation of circulating immune complexes composed of antibodies, viral antigens, and complement components. Clinically, patients may present with a classic triad of purpura, weakness, and arthralgia, along with peripheral neuropathy and kidney involvement such as membranoproliferative glomerulonephritis. Although cryoglobulinemia can also occur in autoimmune diseases and certain hematologic

Question 60. Which of the following conditions can lead to cardiogenic (myocardial) shock in the absence of myocardial infarction?

A. Acute mitral regurgitation

B. Ventricular septal rupture

C. Isolated right ventricular shock

D. All of the above

Correct answer: D

Cardiogenic shock occurs when the heart is unable to pump sufficient blood to meet the body's metabolic demands, resulting in severe hypotension and tissue hypoperfusion. Although myocardial infarction (MI) is the most common cause, several mechanical and functional cardiac conditions can also produce shock without primary infarction. Acute mitral regurgitation leads to sudden backflow of blood from the left ventricle into the left atrium, causing pulmonary congestion and reduced forward cardiac output. Ventricular septal rupture creates an abnormal left-to-right shunt, decreasing effective systemic perfusion and overloading the pulmonary circulation. Isolated right ventricular failure or shock impairs blood flow to the lungs and subsequently reduces left ventricular filling, lowering systemic output. Each of these conditions can independently result in profound circulatory collapse. Therefore, all listed options are recognized non-infarction causes of cardiogenic shock.

Question 61. Nitric oxide produces its physiological effects by increasing the level of which intracellular molecule?

A. BRCA 1

B. BRCA 2

C. Interleukin

D. cGMP

Correct answer: D

Nitric oxide (NO) is an important signaling molecule produced by endothelial cells lining blood vessels. It plays a central role in regulating vascular tone, blood flow, and blood pressure. After being synthesized, nitric oxide rapidly

Question 62. Which of the following conditions can lead to dactylitis?

A. Hemophilia

B. Von Wilderness disease

C. Measles

D. Sickle Cell Anemia

Correct answer: D

Dactylitis, often referred to as hand-foot syndrome, is a painful, symmetrical swelling of the hands and feet. It is a hallmark and often the earliest clinical manifestation of Sickle Cell Anemia, typically occurring in infants and young children between 6 months and 2 years of age. The underlying pathophysiology is vaso-occlusion, where sickled red blood cells block the small blood vessels in the marrow of the metacarpals, metatarsals, and phalanges. This blockage leads to bone marrow ischemia and infarction, resulting in intense pain, swelling, and inflammation of the entire digit. This symptom is so characteristic that its presence in an infant

should prompt immediate investigation for sickle cell disease. While dactylitis can also be seen in other conditions like psoriatic arthritis or tuberculosis, in the context of the given options, it is pathognomonic for sickle cell anemia. Hemophilia and von Willebrand disease cause bleeding disorders, not vaso-occlusive crises. Measles causes a characteristic rash but not dactylitis. The painful swelling is a direct result of the sickling phenomenon

Question 63. Which chromosome triggers the production of Müllerian Inhibiting Factor (MIF), also called Anti-Müllerian Hormone (AMH), during male fetal development?

A. Chromosome 16

B. Chromosome 22

C. X Chromosome

D. Y chromosome

Correct answer: D

The determination of male sexual development is orchestrated by genes located on the Y chromosome. The key gene is the SRY (Sex-determining Region Y) gene. The SRY gene encodes a transcription factor that triggers the undifferentiated fetal gonads to develop into testes. Once the testes are formed, they begin to secrete two critical hormones. The Leydig cells of the testes produce testosterone, which promotes the development of the Wolffian ducts into the internal male reproductive structures (epididymis, vas deferens, seminal vesicles). Simultaneously, the Sertoli cells of the testes produce Müllerian Inhibiting Factor (MIF), also known as Anti-Müllerian Hormone (AMH). MIF causes the regression and disappearance of the Müllerian ducts, which would otherwise develop into the internal female reproductive structures (fallopian tubes, uterus, and upper vagina). Therefore, the presence of the Y chromosome, specifically the SRY gene, is the primary trigger for testicular development and the subsequent production of MIF, making it the chromosome ultimately responsible for this process. Without the Y chromosome and MIF, the Müllerian ducts would persist and develop.

Question 64. Which of the following substances acts as an endogenous pyrogen

A. PGE_2

B. PGD_2

C. $PGF_2\alpha$

D. PGI_2

Correct answer: A

Endogenous pyrogens are substances produced by the body that cause fever, usually

Question 65. Reed–Sternberg cells are characteristically seen in which of the following diseases?

A. Hodgkin’s disease

B. Sickle cell anemia

C. Thalassemia

D. CML (Chronic Myeloid Leukemia)

Correct answer: A

Reed–Sternberg cells are the diagnostic hallmark of Hodgkin's disease (Hodgkin lymphoma), a malignant disorder of the lymphatic system. These cells are large, abnormal B-lymphocyte–derived cells that typically contain two mirror-image nuclei with prominent nucleoli, producing the classic "owl's eye" appearance under the microscope. They are usually found within an inflammatory background composed of lymphocytes, eosinophils, plasma cells, and macrophages. The presence of Reed–Sternberg cells in lymph node biopsy is essential for confirming the diagnosis of Hodgkin lymphoma. Clinically, patients often present with painless enlargement of lymph nodes, especially in the cervical region, along with systemic "B symptoms" such as fever, night sweats, and unexplained weight loss. Reed–Sternberg cells are not seen in sickle cell anemia, thalassemia, or chronic myeloid leukemia, which are disorders of red blood cells or myeloid lineage rather than lymphoid malignancy.

Question 66. Marked or severe bleeding is most characteristically seen in which of the following conditions?

A. von Willebrand disease (VWD)

B. Hemophilia A

C. Hemophilia B

D. ALL (Acute Lymphoblastic Leukemia)

Correct answer: B

Hemophilia A is a severe inherited bleeding disorder caused by deficiency of clotting factor VIII, a key component of the intrinsic pathway of the coagulation cascade. Because factor VIII is essential for stable fibrin clot formation, its

Question 67. Struvite urinary stones are primarily composed of which metal?

A. & (b)

B. Calcium

C. Sodium & Potassium

D. Both

Correct answer: D

(A) & (b)Struvite stones are a type of kidney stone composed mainly of magnesium ammonium phosphate. They typically form in alkaline urine during urinary tract infections caused by urease-producing bacteria such as Proteus, Klebsiella, or Pseudomonas. These bacteria break down urea into ammonia, which raises urinary pH and promotes precipitation of magnesium, ammonium, and phosphate ions to form struvite crystals. Over time, these stones can grow rapidly and may develop into large "staghorn calculi" that occupy much of the renal pelvis and

calyces. Unlike calcium stones, which are the most common type of kidney stones overall, struvite stones are specifically associated with infection rather than metabolic abnormalities. They can lead to recurrent infections, obstruction, kidney damage, and impaired renal function if untreated. Therefore, magnesium is the key metal component responsible for the formation of struvite stones among the given options.

Question 68. Which of the following clinical features are typically present in seropositive rheumatoid arthritis?

A. Multiple joints affected

B. Symmetrical joint symptoms

C. Joint pain and swelling

D. All of the above

Correct answer: D

Seropositive rheumatoid arthritis is a chronic autoimmune inflammatory disorder characterized by the presence of rheumatoid factor (RF) and/or anti–cyclic citrullinated peptide (anti-CCP) antibodies in the blood. It primarily affects synovial joints and usually presents as a symmetrical polyarthritis, meaning the same joints on both sides of the body are involved. Multiple joints are commonly affected, especially the small joints of the hands, wrists, and feet. Patients experience persistent joint pain, swelling, warmth, and stiffness, particularly morning stiffness lasting more than 30 minutes. As the disease progresses, chronic inflammation can lead to cartilage destruction, bone erosion, joint deformities, and reduced mobility. Systemic features such as fatigue, low-grade fever, and anemia may also occur. Because all listed options—multiple joint involvement, symmetrical distribution, and joint pain with swelling—are classic manifestations of seropositive rheumatoid arthritis, the correct answer is “All of the above.”

Question 69. Which of the following statements about Graves’ disease is incorrect?

A. Results in hyperthyroidism

B. Autoimmune disorder

C. Common in males

D. Referred to as toxic diffuse goiter

Correct answer: C

Graves’ disease is an autoimmune disorder and the most common cause of hyperthyroidism. It occurs when thyroid-stimulating immunoglobulins (TSI) bind to and activate thyroid-stimulating hormone (TSH) receptors on thyroid cells, leading to excessive production of thyroid hormones (T_3 and T_4). This results in symptoms such as weight loss, heat intolerance,

Question 70. Which of the following statements about Alzheimer’s disease is false?

A. One in 10 people age 65 and older has Alzheimer’s disease

B. Alzheimer’s disease is curable

C. Alzheimer’s disease causes dementia

D. All of the above

Correct answer: B

Alzheimer’s disease is a progressive neurodegenerative disorder and the most common cause of dementia in older adults. It is characterized by gradual loss of memory, cognitive decline, impaired reasoning, language difficulties, and behavioral changes due to degeneration of neurons in the brain, particularly in the hippocampus and cerebral cortex. Although its exact cause is not fully understood, hallmark pathological features include extracellular amyloid plaques and intracellular neurofibrillary tangles composed of tau protein. Currently, there is no cure for Alzheimer’s disease. Available treatments, such as cholinesterase inhibitors and NMDA receptor antagonists, may temporarily improve symptoms or slow progression but cannot stop or reverse the disease process. The statement that about one in ten people aged 65 years and older has Alzheimer’s disease is broadly accurate, and dementia is a defining clinical outcome of the disorder. Therefore, the claim that Alzheimer’s disease is curable is false.

Question 71. Which of the following factors increase the risk of developing cutaneous lymphoma?

A. Age

B. Gender

C. Weakened immune system

D. All of the above

Correct answer: D

Cutaneous lymphoma is a type of non-Hodgkin lymphoma that primarily involves the skin, most commonly arising from T-lymphocytes (cutaneous T-cell lymphoma) and less frequently from B-cells. Several factors are known to increase the risk of developing this condition. Advancing age is a significant risk factor, as most cases occur in middle-aged or older adults. Gender also plays a role, with certain subtypes showing a higher prevalence in males compared to females. Additionally, a weakened immune system markedly increases susceptibility. Individuals with immunosuppression due to HIV infection, organ transplantation, long-term immunosuppressive therapy, or congenital immunodeficiency have reduced immune surveillance, allowing abnormal lymphocytes to proliferate.

Question 72. Which of the following conditions is not a feature of AIDS-related complex (ARC)?

A. Ectopic pregnancy

B. Recurrent genital candidiasis

C. Generalized lymphadenopathy

D. Chronic diarrhea

Correct answer: A

AIDS-related complex (ARC) refers to the symptomatic phase of HIV infection that occurs before the development of full-blown AIDS. During this stage, the immune system is progressively weakened, leading to persistent constitutional symptoms and opportunistic infections, but not yet meeting the criteria for AIDS. Common features of ARC include generalized lymphadenopathy (enlarged lymph nodes in multiple regions), chronic diarrhea, prolonged fever, weight loss, fatigue, and recurrent mucocutaneous infections such as oral or genital candidiasis. These manifestations reflect ongoing viral replication and declining immune function, particularly reduced $CD4^+$ T-cell counts. In contrast, ectopic pregnancy is a gynecological emergency in which a fertilized ovum implants outside the uterine cavity, most often in the fallopian tube. It is unrelated to HIV infection or immune deficiency and therefore not considered part of ARC. Hence, ectopic pregnancy is the correct option that is not included in AIDS-related complex.

Question 73. Genital warts are produced by infection with which of the following viruses?

A. Herpes simplex virus

B. Human papillomavirus

C. Cytomegalovirus

D. Varicella zoster virus

Correct answer: B

Genital warts, medically known as condyloma acuminata, are caused by infection with human papillomavirus (HPV), a DNA virus that infects epithelial cells of the skin and mucous membranes. The condition is primarily associated with low-risk HPV types 6 and 11, which lead to benign proliferative lesions in

Question 74. Mutation of which coagulation factor leads to Leiden thrombophilia?

A. Factor V

B. Factor VII

C. Factor IX

D. Factor X

Correct answer: A

Leiden thrombophilia, also known as Factor V Leiden mutation, is a common inherited disorder that predisposes individuals to abnormal blood clot formation (hypercoagulability). It results from a specific genetic mutation in the Factor V gene that makes the factor resistant to inactivation by activated protein C (APC), an important natural anticoagulant. Normally, APC regulates clotting by breaking down Factor V and Factor VIII, thereby preventing excessive coagulation. In Factor V Leiden, this regulatory mechanism fails, allowing clotting activity to persist longer than normal. As a result, affected individuals have an increased risk of venous

thromboembolism, including deep vein thrombosis (DVT) and pulmonary embolism. The condition is inherited in an autosomal dominant pattern with variable penetrance and

Question 75. Where does Amphotericin B exert its action?

A. Ribosomes

B. Cell membrane

C. Plasma membrane

D. Protein synthesis

Correct answer: B

Amphotericin B is a potent polyene antifungal agent with a broad spectrum of activity. Its primary mechanism of action involves binding to ergosterol, which is the principal sterol component of the fungal cell membrane. Human cells, in contrast, contain cholesterol in their plasma membranes. Amphotericin B has a much

Question 76. Which antiretroviral medication also shows activity against the hepatitis B virus (HBV)?

A. Abacavir

B. Tenofovir

C. Nevirapine

D. Emtricitabine

Correct answer: B

Tenofovir is a nucleotide reverse transcriptase inhibitor (NtRTI) that is a cornerstone of antiretroviral therapy (ART) for HIV infection. In addition to its potent activity against HIV, Tenofovir also has significant activity against the hepatitis B virus (HBV). It works by inhibiting the reverse transcriptase of both viruses, thereby preventing viral replication. For this reason, tenofovir (in its prodrug forms, tenofovir disoproxil fumarate - TDF, or tenofovir alafenamide - TAF) is recommended as a preferred component of the ART regimen for patients who are co-infected with HIV and HBV. Emtricitabine and lamivudine also have dual activity against both HIV and HBV, but tenofovir is a key agent. Using a regimen that treats both infections simultaneously is crucial to prevent the development of drug-resistant HBV and to avoid hepatic flares that can occur if HBV-active drugs are withdrawn. Abacavir and Nevirapine do not have clinically significant activity against HBV.

Question 77. Which drug is preferred for treating resistant rheumatic chorea?

A. Valproate

B. Haloperidol

C. Diazepam

D. Probenecid

Correct answer: A

Sydenham's chorea, also known as rheumatic chorea, is a neurological manifestation of acute rheumatic fever, characterized by involuntary, rapid, and purposeless movements. The first-line treatment for mild cases often involves supportive care and penicillin prophylaxis to prevent recurrence of rheumatic fever. For more severe or persistent chorea, medical therapy is required. Valproate, an antiepileptic drug, has become the drug of choice for treating Sydenham's chorea, including cases that are resistant to other therapies. It is generally effective and has a more favorable side-effect profile compared to older treatments. Haloperidol, a typical antipsychotic, was previously used but is now considered a second-line agent due to its risk of extrapyramidal side effects and tardive dyskinesia. Diazepam may be used for sedation but does not treat the underlying chorea. Probenecid is used for gout. The efficacy and better tolerability of valproate have made it the preferred agent for managing this condition in modern clinical practice.

Question 78. When pKa equals pH, which of the following statements is accurate?

A. Concentration of drug is 50% ionic and 50% non-ionic

B. Absorption of drug is 50% ionic and 50% non-ionic

C. Concentration of drug is 75% ionic and 25% non-ionic

D. Concentration of drug is 25% ionic and 75% non-ionic

Correct answer: A

The Henderson-Hasselbalch equation describes the relationship between the pH of a solution, the pKa of a drug (which is the pH at which the drug is half-dissociated), and the ratio of the

Question 79. What is the physiological hydrocortisone dose expressed in mg/kg/day?

A. 5 mg/kg/day

B. 10 mg/kg/day

C. 15 mg/kg/day

D. 20 mg/kg/day

Correct answer: B

The physiological dose of hydrocortisone refers to the amount required to replace the body's normal daily production of cortisol. This replacement dose is crucial in managing conditions like congenital adrenal hyperplasia or adrenal insufficiency. The normal endogenous cortisol production rate is approximately 5-10 mg/m²/day. When converting this to a dose based on body weight for children, the widely accepted physiological replacement dose of hydrocortisone is in the range of 8-15 mg/m²/day, which corresponds to approximately 10-15 mg/kg/day in infants and young children, divided into three daily doses to mimic the natural diurnal rhythm of cortisol secretion. The value of 10 mg/kg/day falls within this standard therapeutic range and is a commonly cited figure for physiological replacement. Doses higher than this are considered supraphysiological or pharmacological and are used for their anti-inflammatory or immunosuppressive effects. The other options represent doses that are either too low or too

high for standard physiological

Question 80. A man presents with hemoptysis, fever, and breathlessness. Bronchoalveolar lavage microscopy shows septate hyphae with acute-angle branching. Which fungal infection is most likely responsible?

A. Mucormycosis

B. Histoplasmosis

C. Aspergillosis

D. Candidiasis MEDINK CHAPTER 06_PHARMACOLOGY

Correct answer: D

RisperidoneHyperprolactinemia is a common side effect of antipsychotic medications, caused by their blockade of D2 dopamine receptors in the tuberoinfundibular pathway of the brain. Dopamine normally acts to inhibit prolactin release from the pituitary gland. When D2 receptors are blocked, this inhibition is removed, leading to elevated prolactin levels. Among atypical (second-generation) antipsychotics, Risperidone is most notorious for causing significant and sustained elevations in prolactin, comparable to that seen with typical (first-generation) antipsychotics like haloperidol. This can lead to side effects like gynecomastia, galactorrhea, and amenorrhea. Other atypical agents like Olanzapine cause a more moderate and often transient increase, while Clozapine and Ziprasidone have a very low propensity to increase prolactin levels, making them prolactin-sparing agents.

Question 81. Which of the following drugs inhibits glucocorticoid synthesis?

A. Mifepristone

B. Flutamide

C. Finasteride

D. Metyrapone

Correct answer: D

Metyrapone is a drug used for the diagnosis and treatment of conditions involving excess cortisol production, such as Cushing's syndrome. Its mechanism of action is the inhibition of steroid synthesis in the adrenal cortex. Specifically, metyrapone is a potent and selective inhibitor of the enzyme 11β-hydroxylase (also known as P450c11). This enzyme catalyzes the final step in cortisol synthesis, which is the conversion of 11-deoxycortisol to cortisol. By blocking this step, metyrapone effectively reduces the production of cortisol. Mifepristone is a glucocorticoid receptor antagonist. Flutamide is an androgen receptor antagonist. Finasteride is a 5-alpha reductase inhibitor, which blocks the conversion of testosterone to dihydrotestosterone. Therefore, metyrapone is the only drug listed that directly inhibits the synthesis of glucocorticoids.

Question 82. Which of the following statements about Prasugrel is incorrect?

A. Not a prodrug

B. P2Y12 purinergic receptor blocker

C. Has a strong antiplatelet activity

D. Causes intracranial hemorrhage in TIA patients.

Correct answer: A

Prasugrel is a potent antiplatelet agent used to prevent thrombotic events in patients with acute coronary syndromes undergoing percutaneous coronary intervention (PCI).(A) Incorrect : Prasugrel is a thienopyridine, similar to clopidogrel, and it is a prodrug. It requires hepatic metabolism via cytochrome P450 enzymes to be converted into its active metabolite, which then exerts the antiplatelet effect. This statement is false.(B) Correct : The active metabolite of prasugrel irreversibly binds to and blocks the P2Y12 subtype of the ADP receptor on the platelet surface, preventing ADP-mediated platelet activation and aggregation. (C) Correct : Prasugrel has a more rapid onset and provides a more consistent and stronger antiplatelet effect than clopidogrel. (D) Correct : Due to its potent antiplatelet activity, prasugrel carries a higher bleeding risk than clopidogrel. It is specifically contraindicated in patients with a prior history of transient ischemic attack (TIA) or stroke because clinical trials showed an increased risk of intracranial hemorrhage in this subgroup.

Question 83. T-wave prolongation is associated with which of the following ?

A. Quinidine

B. Amiodarone

C. Magnesium Sulfate

D. Lignocaine

Correct answer: A

The question likely contains a typo and refers to QT interval prolongation, a common and clinically significant ECG finding. The QT interval represents the total duration of

Question 84. How does colchicine act in the treatment of acute gout?

A. Inhibition of purine metabolism

B. Inhibition of uric acid conversion

C. Migration of leukocytes

D. Leukocytes, lymphocytes inhibition & microtubular inhibitor

Correct answer: D

Colchicine is an anti-inflammatory agent used specifically for the treatment of acute gout flares. Its mechanism of action is unique and targeted at the inflammatory cascade triggered by uric acid crystals. Colchicine binds to tubulin, the protein subunit of microtubules, and inhibits its polymerization. This disruption of the microtubular network within inflammatory cells, particularly neutrophils, has several downstream effects. It impairs the motility and migration of leukocytes (neutrophils) into the affected joint, thus reducing the inflammatory infiltrate. It also

inhibits the formation of the NLRP3 inflammasome and the subsequent release of pro-inflammatory cytokines like IL-1β from neutrophils and macrophages that have phagocytosed the crystals. Colchicine does not affect purine metabolism or uric acid levels directly; its action is purely anti-inflammatory. Therefore, its function as a microtubule inhibitor that subsequently blocks leukocyte migration and activation is the correct mechanism.

Question 85. Basiliximab is a/an:

A. IL-1 receptor antagonist

B. Anti-CD3 antibody

C. IL-2 receptor antagonist

D. TNF inhibitor

Correct answer: C

Basiliximab is a monoclonal antibody used as an immunosuppressant, primarily for the prophylaxis of acute organ rejection in kidney transplantation. It is a chimeric (murine-human) monoclonal antibody that specifically targets the alpha chain (CD25) of the Interleukin-2 (IL-2) receptor on the surface

Question 86. Pirenzepine is used for -

A. Gastric ulcer

B. Glaucoma

C. Hypertension

D. Congestive cardiac failure

Correct answer: A

Pirenzepine is a selective antagonist of M1 muscarinic acetylcholine receptors. The M1 receptors are prominently located on the intramural parasympathetic ganglia of the stomach wall. Stimulation of these receptors by acetylcholine (released from vagal nerve endings) plays a role in mediating gastric acid secretion. By selectively blocking these M1 receptors, pirenzepine effectively reduces vagally-stimulated gastric acid output. This makes it useful in the treatment of peptic ulcer disease, specifically gastric ulcers and duodenal ulcers. Unlike non-selective muscarinic antagonists (like atropine), pirenzepine has fewer systemic side effects (such as dry mouth, blurred vision, or tachycardia) because it has lower affinity for M2 and M3 receptors found elsewhere in the body. Its primary therapeutic application is based on its ability to suppress acid production in the stomach. The other conditions listed are not indications for pirenzepine.

Question 87. Sacubitril is a ?

A. ACE inhibitor

B. Neuro-endopeptidase inhibitor

C. Calcium channel inhibitor

D. Beta adrenergic blocker

Correct answer: B

Sacubitril is a novel cardiovascular drug used in the treatment of heart failure with reduced ejection fraction. It is the first in its class, acting as a neprilysin inhibitor. Neprilysin (also known as neutral endopeptidase) is an enzyme responsible for the breakdown of several endogenous vasoactive peptides, including natriuretic peptides (such as ANP and BNP), bradykinin, and adrenomedullin. By inhibiting neprilysin, sacubitril increases the levels of these peptides. The elevated levels of natriuretic peptides promote vasodilation, natriuresis (sodium excretion), and diuresis, and they also inhibit cardiac fibrosis and hypertrophy. These effects help to counteract the neurohormonal overactivation seen in heart failure. Sacubitril is co-formulated with an angiotensin receptor blocker (ARB), typically valsartan, in a combination drug known as an angiotensin receptor-neprilysin inhibitor (ARNI). The ARB is necessary because neprilysin inhibition also increases angiotensin II levels.

Question 88. Why is niacin therapy contraindicated in patients with diabetes?

A. Increases the blood sugar levels

B. Causes scleroderma

C. Difficult to give injection

D. Increases the metabolism of oral hypoglycemic drugs

Correct answer: A

Niacin (nicotinic acid or vitamin B3), when used in pharmacological doses for the treatment of dyslipidemia, can have a significant impact on glucose metabolism. A well-known side effect of niacin therapy is that it can increase blood sugar levels and worsen glycemic control in patients with diabetes. The mechanism is thought to involve an increase in insulin resistance, as niacin can impair the insulin signaling pathway in peripheral tissues like skeletal muscle and adipose tissue. This can lead to hyperglycemia and may necessitate an adjustment or increase in the dosage of antidiabetic medications. Due to this adverse effect on glucose control, niacin is used with caution and is often considered relatively contraindicated in patients with diabetes, especially if their glucose levels are poorly controlled. The other options are incorrect; niacin is given orally, does not cause scleroderma, and does not significantly increase the metabolism of oral hypoglycemic drugs.

Question 89. Endothelin exerts its effects through which receptors?

A. GPCR

B. cGMP

C. Sodium receptors

D. Calcium receptos

Correct answer: A

Endothelins are a family of potent vasoconstrictor peptides produced primarily by endothelial

cells. They exert their wide range of physiological effects by binding to specific endothelin receptors on the surface of target cells. There are two main subtypes of endothelin receptors, ET-A and ET-B. Both of these receptors belong to the large superfamily of G protein-coupled receptors (GPCRs). These are transmembrane receptors that, upon ligand binding, activate intracellular G proteins, which in turn trigger various downstream signaling cascades. For example, activation of the ET-A receptor on vascular smooth muscle cells couples to Gq protein, leading to an increase in intracellular calcium and subsequent vasoconstriction. Activation of ET-B receptors on endothelial cells can lead to the release of vasodilators like nitric oxide. The fundamental mechanism involves signaling through a GPCR. cGMP is a second messenger, not a receptor.

Question 90. Which muscle relaxant acts centrally as an alpha-2 agonist?

A. Diazepam

B. Bromocriptine

C. Tizanidine

D. Methocarbamol

Correct answer: C

Tizanidine is a centrally acting skeletal muscle relaxant used to treat spasticity associated with conditions like multiple sclerosis or spinal cord injury. Its primary mechanism of action is as an alpha-2 adrenergic agonist. It acts on presynaptic alpha-2 receptors in the spinal cord, which inhibits the release of excitatory amino acids (like glutamate and aspartate) from spinal interneurons. This presynaptic

Question 91. Apixaban is:

A. Antithrombin inhibitor

B. Direct Xa inhibitor

C. Platelet activator

D. Clotting Factor XII

Correct answer: B

Apixaban is one of the direct oral anticoagulants (DOACs), also known as non-vitamin K antagonist oral anticoagulants (NOACs). Its mechanism of action is the direct, selective, and reversible inhibition of Factor Xa. Factor Xa is a critical enzyme in the coagulation cascade, positioned at the convergence of the intrinsic and extrinsic pathways. It is responsible for converting prothrombin (Factor II) into thrombin (Factor IIa). By directly inhibiting Factor Xa, apixaban effectively blocks the amplification of the clotting cascade and prevents the generation of thrombin, which is the final enzyme responsible for converting fibrinogen to fibrin and forming a clot. Direct thrombin (Factor IIa) inhibitors like dabigatran are a different class of DOACs. Apixaban is used for the prevention and treatment of venous thromboembolism and for stroke prevention in patients with non-valvular atrial fibrillation.

Question 92. Anaerobic bacteria are inherently resistant to which of the following agents?

A. Beta-lactam antibiotics

B. Aminoglycosides

C. Azithromycin

D. Metronidazole

Correct answer: B

Aminoglycosides (e.g., gentamicin, amikacin) are a class of bactericidal antibiotics that inhibit

Question 93. Which one of the following antibiotics is correctly classified as bactericidal, rather than bacteriostatic?

A. Clindamycin

B. Vancomycin

C. Tetracycline

D. Cephalexin

Correct answer: D

Antibiotics are broadly classified as bactericidal or bacteriostatic based on their effect on bacteria. Bactericidal drugs directly kill bacteria, while bacteriostatic drugs merely inhibit bacterial growth, allowing the immune system to eliminate the pathogens. Cephalexin is a first-generation cephalosporin antibiotic that is bactericidal. It works by inhibiting bacterial cell wall synthesis, leading to cell lysis and death, particularly in actively dividing bacteria. This mechanism is similar to that of penicillins. In contrast, clindamycin and tetracycline are primarily bacteriostatic; they inhibit bacterial protein synthesis by acting on ribosomal subunits, thereby preventing growth rather than causing immediate cell death. Vancomycin is generally bactericidal against most Gram-positive organisms, but in many exam contexts, cephalosporins are the classic examples of bactericidal agents among mixed options. Therefore, cephalexin is correctly classified

Question 94. Which of the following agents leads to melanosis coli?

A. Senna

B. Sorbitol

C. Magnesium Sulphate

D. Bisacodyl

Correct answer: A

Melanosis coli is a benign condition characterized by a dark brown to black pigmentation of the colonic mucosa. It is not true melanin but rather a lipofuscin pigment deposited within macrophages in the lamina propria. This condition is strongly associated with the chronic use of a specific class of laxatives known as anthraquinone laxatives. This class includes senna, cascara, aloe, and rhubarb. These compounds are thought to induce apoptosis (programmed

cell death) of the colonic epithelial cells. The apoptotic bodies, which contain lipofuscin, are then phagocytosed by macrophages. Over time, the accumulation of these pigment-laden macrophages creates the characteristic dark discoloration of the colon, which is visible on colonoscopy. Other types of laxatives, such as the osmotic laxatives sorbitol and magnesium sulfate or the stimulant laxative bisacodyl (a diphenylmethane derivative), are not associated with this condition.

Question 95. Which class of antibiotics would be most suitable for initial empirical therapy in a bedridden patient who develops both catheter-associated urinary tract infection (CAUTI) and hospital-acquired pneumonia, requiring broad-spectrum coverage against Pseudomonas and beta-lactamase–producing organisms?

A. Amoxicillin

B. Beta-lactam antibiotics with beta-lactamase inhibitors

C. 3rd generation cephalosporins

D. 2nd generation cephalosporins

Correct answer: B

A bedridden patient with a urinary catheter who develops both a UTI and pneumonia is at

Question 96. Mycoplasma is resistant to:

A. Ceftriaxone

B. Tetracyclines

C. Aminoglycosides

D. Fluoroquinolones

Correct answer: A

Mycoplasma species are a unique type of bacteria that are intrinsically resistant to a major class of antibiotics. The defining characteristic of Mycoplasma is that they completely lack a cell wall. Antibiotics that target cell wall synthesis for their mechanism of action are therefore completely ineffective against them. This includes all beta-lactam antibiotics, such as penicillins and cephalosporins. Ceftriaxone is a third-generation cephalosporin and acts by inhibiting bacterial cell wall synthesis. Since Mycoplasma has no cell wall to target, it is naturally resistant to ceftriaxone. In contrast, Mycoplasma infections are treated with antibiotics that target other bacterial processes. These include tetracyclines (e.g., doxycycline) and macrolides (e.g., azithromycin), which inhibit protein synthesis by acting on the ribosome, and fluoroquinolones (e.g., levofloxacin), which inhibit DNA synthesis. Aminoglycosides also inhibit protein synthesis.

Question 97. Tadalafil should not be combined with:

A. Vasodilators

B. Antibiotics

C. Vasoconstrictors

D. Valproate

Correct answer: A

Tadalafil is a phosphodiesterase-5 (PDE5) inhibitor used for erectile dysfunction and pulmonary hypertension. Its mechanism of action involves enhancing the effect of nitric oxide (NO) by preventing the degradation of

Question 98. Which medication reduces bone breakdown in osteoporosis?

A. Teriparatide

B. Risedronate

C. Cortisone

D. Cimetidine

Correct answer: B

Risedronate reduces bone breakdown in osteoporosis by inhibiting osteoclast activity. Osteoporosis is characterized by an imbalance between bone resorption (breakdown) and bone formation, leading to fragile bones and increased fracture risk. Osteoclasts are the cells responsible for bone resorption. Risedronate belongs to a class of drugs called bisphosphonates, which bind strongly to bone mineral and suppress osteoclast-mediated bone destruction. As a result, bone density increases and fracture risk decreases.Teriparatide (A) works differently; it is a recombinant form of parathyroid hormone that stimulates new bone formation by activating osteoblasts, so it promotes bone building rather than reducing breakdown. Cortisone (C) actually worsens osteoporosis because long-term corticosteroid use accelerates bone loss and decreases calcium absorption. Cimetidine (D) is an H_2-receptor antagonist used for peptic

Question 99. Besides epinephrine, which medication is recommended for ventricular fibrillation during cardiac arrest?

A. Amiodarone

B. Dopamine

C. Adenosine

D. Atropine

Correct answer: A

Amiodarone is recommended, in addition to epinephrine, for the treatment of ventricular fibrillation (VF) or pulseless ventricular tachycardia during cardiac arrest that is unresponsive to defibrillation. VF is a life-

Question 100. Which statement regarding vitamin K is correct?

A. Anticoagulant

B. Prolonged use of antimicrobials leads to deficiency

C. Dietary allowance is 15–20 mg

D. All of the above

Correct answer: B

Vitamin K is a fat-soluble vitamin essential for the synthesis of clotting factors II, VII, IX, and X in the liver, as well as proteins C and S. It plays a crucial role in blood coagulation, promoting clot formation rather than preventing it. Therefore, option (A) is incorrect because vitamin K is not an anticoagulant; instead, it has a procoagulant effect.A significant portion of vitamin K (especially vitamin K_2) is produced by normal intestinal bacteria. Prolonged use of broad-spectrum antimicrobials can disrupt gut flora, reducing endogenous vitamin K production and potentially leading to deficiency. This deficiency may result in bleeding tendencies due to impaired clotting factor synthesis, making option (B) correct.Option (C) is incorrect because the daily dietary requirement of vitamin K is in micrograms (about 55–120 µg/day for adults),

Question 101. Use of which drug necessitates regular monitoring of prothrombin time (PT/INR)?

A. Aspirin

B. Lepirudin

C. Digoxin

D. Coumadin

Correct answer: D

Coumadin is the brand name of Warfarin, an oral anticoagulant that requires regular monitoring of prothrombin time (PT), expressed as the international normalized ratio (INR). Warfarin works by inhibiting vitamin K–dependent synthesis of clotting factors II, VII, IX, and X in the liver. Because its anticoagulant effect can vary widely due to diet, drug interactions, liver function, and genetics, careful monitoring is essential to maintain therapeutic efficacy while preventing bleeding complications.If the INR is too low, there is a risk of thrombosis; if too high, there is a risk of serious bleeding. Therefore, periodic PT/INR testing guides dose adjustments.Aspirin (A) affects platelet function and does not require PT/INR monitoring. Lepirudin (B), a direct thrombin inhibitor, is monitored using activated partial thromboplastin time (aPTT), not PT/INR. Digoxin (C) is a cardiac glycoside used in heart failure and arrhythmias and requires serum drug level monitoring, not coagulation tests.Thus, Coumadin (warfarin) is the drug that necessitates regular PT/INR monitoring.

Question 102. Trichloroethylene (Trilene) undergoes breakdown primarily through which process?

A. Enzymatic degradation

B. Environmental hydrolysis

C. Chemical oxidation

D. Not degraded in the body

Correct answer: A

Trichloroethylene (TCE), also known as Trilene, is primarily broken down in the body through enzymatic metabolism in the liver. The

Question 103. A posthumous child is:

A. Child delivered after death of biological mother

B. Child delivered after death of biological father

C. Born after death of parents

D. Has been abandoned by parents

Correct answer: B

The term posthumous is derived from the Latin postumus, meaning last, and in this context, it refers to something that occurs or is published after someone's death. In legal and common language, a posthumous child is specifically defined as a child who is born after the death of their biological father. This situation has significant legal implications, particularly concerning matters of inheritance, succession, and legitimacy. Most legal systems have provisions to ensure that a posthumous child is granted the same rights as a child born during the father's lifetime. For example, the child is generally considered an heir to the deceased father's estate. The term does not apply to a child delivered after the mother's death (which would typically involve a postmortem cesarean section) or after both parents' deaths, although the word could be used more broadly in a non-legal sense. Abandonment by parents is a separate social and legal issue.

Question 104. Under which section of the Indian Penal Code is the M'Naghten Rule—used to establish the legal defense of insanity—codified?

A. CRPC 84

B. CRPC 48

C. IPC 84

D. IPC 48

Correct answer: C

No explanation is available for this recall question yet.

Question 105. Bluish discoloration of the gastric mucosa is characteristic of which type of poisoning?

A. Mercury

B. Cadmium

C. Amytal sodium

D. Arsenic

Correct answer: C

Bluish discoloration of the gastric mucosa is a characteristic finding in Amytal sodium poisoning, which belongs to the group of barbiturate compounds. Amytal sodium (amobarbital sodium) is a

central nervous system depressant used medically as a sedative and hypnotic. In cases of overdose or poisoning, it produces severe depression of the brain and respiratory centers.During post-mortem examination in barbiturate poisoning, the gastric mucosa may show bluish or bluish-purple discoloration. This occurs due to local chemical irritation and vascular congestion caused by the drug present in the stomach. In addition to this mucosal discoloration, patients with barbiturate poisoning commonly present with deep coma, respiratory depression, hypotension, and hypothermia.The other options show different findings. Mercury and cadmium poisoning typically cause

Question 106. Which metal poisoning leads to muscle pain and nephropathy?

A. Arsenic

B. Cadmium

C. Mercury

D. Lead

Correct answer: B

Chronic poisoning with the heavy metal cadmium has characteristic effects on the musculoskeletal and renal systems. Cadmium accumulates in the renal cortex and is highly nephrotoxic, primarily damaging the proximal renal tubules. This leads to a specific type of nephropathy characterized by tubular proteinuria (excretion of low-molecular-weight proteins like β2-microglobulin), glucosuria, and aminoaciduria. Over time, this can progress to chronic kidney disease. Cadmium also directly affects bone metabolism, interfering with calcium and vitamin D function, leading to osteomalacia and osteoporosis. The combination of severe bone pain (especially in the back and joints) and kidney damage is the hallmark of Itai-itai (ouch-ouch) disease, a condition first described in Japan due to mass cadmium poisoning. While other metals can cause nephropathy (mercury , lead) or neuropathy causing pain (arsenic), the classic combination of nephropathy with severe muscle and bone pain is most strongly associated with chronic cadmium toxicity.

Question 107. Which organ undergoes putrefaction first?

A. Brain

B. Heart

C. Prostate

D. Kidney

Correct answer: A

Putrefaction is the decomposition of body tissues by the action of anaerobic bacteria, primarily those originating from the gastrointestinal tract. The rate at which different organs putrefy depends on factors like their water content, vascularity, and proximity to bacterial sources. The first external sign of putrefaction is a greenish discoloration of the skin over the right iliac fossa, due to the cecum's proximity to the abdominal wall. Internally, organs that are rich

Question 108. A patient shows proximal tubule proteinuria. Which metal is most likely responsible for this finding?

A. Cadmium

B. Mercury

C. Gold

D. Lead

Correct answer: A

Heavy metals can be nephrotoxic, but they often affect different parts of the nephron. Cadmium is classically associated with chronic toxicity that primarily targets the proximal convoluted tubules of the kidney. The proximal tubules are responsible for reabsorbing low-molecular-weight (LMW) proteins from the glomerular filtrate. Cadmium damages these tubular cells, impairing their reabsorptive capacity. This leads to a specific type of proteinuria known as tubular proteinuria, which is characterized by the excretion of LMW proteins like β2-microglobulin and retinol-binding protein. This is a key feature of cadmium-induced nephropathy and can be an early sign of toxicity. In contrast, mercury and gold are more associated with glomerular damage, leading to albuminuria (glomerular proteinuria). Lead can also cause a chronic tubulointerstitial nephritis, but cadmium's effect on the proximal tubule is a more specific and classic association.

Question 109. Which of the following constitutional articles is not related to children?

A. Article 23

B. Article 21-A

C. Article 42

D. Article 24

Correct answer: C

Several articles in the Constitution of India provide specific protections and rights for children.1. Article 24 explicitly prohibits the employment of children below the age of 14 years in any factory, mine, or other hazardous employment. 2. Article 23 prohibits traffic in human beings and forced labor, which provides a broad

Question 110. Which of the following statements regarding the Factory Act is correct?

A. Children under 14 years can work in factories if paid well

B. Employment of children under 14 years is prohibited in factories

C. Adults are allowed to work more than 72 hours per week under normal circumstances

D. Workers can be legally made to work 82 hours per week if overtime is paid

Correct answer: B

The Factories Act strictly forbids the employment of children below the age of 14 years in any

factory setting to protect their health, safety, and overall development. This provision aligns with broader child labor laws aimed at ensuring that children are not exposed to hazardous work environments and are instead encouraged to pursue education. While adolescents (aged 15–18 years) may be allowed to work under specific conditions, they must be certified as fit for employment and are subject to regulated working hours. The Act also places limits on adult working hours, typically capping them at 48 hours per week, with controlled overtime provisions, thereby making excessively long workweeks such as 72 or 82 hours illegal under normal circumstances. Overall, the legislation prioritizes worker welfare, safety standards, and humane working conditions, especially safeguarding minors from industrial labor exploitation.

Question 111. Locard is famous for:

A. Theory of exchange

B. Fingerprint study

C. Formula for estimation of stature

D. System of personal identification using body measurements.

Correct answer: A

Dr. Edmond Locard was a French criminologist and a pioneer in the field of forensic science. He is most famous for formulating the basic principle of forensic science known as Locard's Exchange Principle. This principle states that every contact leaves a trace. It posits that whenever two objects come into contact, there is a mutual exchange of matter between them. This means a perpetrator of a crime will bring something into the crime scene and leave with something from it, and both can be used as forensic evidence. For example, fibers from a suspect's clothing might be found on a victim, and hairs from the victim might be found on the suspect. This theory of exchange is the fundamental concept behind the collection and analysis of trace evidence in criminal investigations. Fingerprint study was advanced by Sir Francis Galton , stature estimation by Karl Pearson , and identification by body measurements (anthropometry) by Alphonse Bertillon.

Question 112. At what age does the basiocciput fuse with the basisphenoid?

A. 18 to 22 years

B. 22 to 25 years

C. 14-16 years

D. 12-14 years

Correct answer: A

No explanation is available for this recall question yet.

Question 113. What characteristic odor is associated with a mummified body?

A. Odourless

B. Putrid

C. Pungent

D. Offensive

Correct answer: A

Mummification is a modification of putrefaction that occurs in dry environments, either hot or cold, with good air circulation. In these conditions, the body tissues undergo rapid dehydration before decompositional bacteria can proliferate. The skin becomes dry, leathery, and brown-black, and it adheres closely to the underlying bones. Because the putrefactive process is arrested due to the lack of moisture, the characteristic foul, offensive, and putrid odors associated with decomposition do not develop. Instead, a mummified body is essentially odourless or may have a faint, dry, or dusty smell. This lack of odor is a key feature that distinguishes mummification from typical putrefaction. The internal organs also dry out and shrivel, and the body can be preserved for a very long time in this state. The smell is not pungent, which would imply a sharp, strong smell.

Question 114. Which metal results in “Saturnine gout” formation?

A. Cadmium

B. Lead

C. Beryllium

D. Mercury

Correct answer: B

“Saturnine gout” refers to gout that occurs as a result of chronic lead poisoning. Lead interferes with renal tubular function, reducing the kidneys’ ability to excrete uric acid. This leads to hyperuricemia (elevated uric acid levels in the blood), which promotes the deposition of monosodium urate crystals in joints, producing painful gouty arthritis. Historically, the term “Saturnine” comes from “Saturn,” an old alchemical name for lead. Individuals with long-term occupational or environmental exposure—such as workers in battery manufacturing, smelting, or those exposed to contaminated water or paint—are at higher risk. In addition to gout, chronic lead toxicity may cause anemia, abdominal pain, neuropathy (e.g., wrist drop), hypertension, and kidney damage. Thus,

Question 115. Warthin–Finkeldey giant cells are characteristic of which of the following diseases?

A. Measles

B. Rubella

C. Rabies

D. Typhoid

Correct answer: A

Warthin–Finkeldey cells are multinucleated giant cells with multiple eosinophilic nuclear inclusions, typically found in lymphoid tissues such as the tonsils, lymph nodes, and spleen

during measles infection. They are formed due to virus-induced fusion of infected lymphocytes and are considered a histopathological hallmark of measles, especially in the early stages of the disease. Measles is a highly contagious viral illness caused by a paramyxovirus and is characterized clinically by fever, cough, coryza, conjunctivitis, Koplik spots on the buccal mucosa, and a maculopapular rash that spreads from the face downward. The presence of Warthin–Finkeldey cells reflects viral replication within immune tissues and associated immune suppression. These cells are not typical of rubella, rabies, or typhoid fever, making measles the correct association among the given options.

Question 116. Burkholderia cepacia is resistant to which of the following antimicrobial agents?

A. Ceftazidime

B. Trimethoprim-sulfamethoxazole

C. Temocillin

D. Cefotetan

Correct answer: C

Burkholderia cepacia is a Gram-negative, non-fermenting bacillus that is notorious for its intrinsic resistance to many antibiotics. It is an important opportunistic pathogen, particularly in patients with cystic fibrosis and those who are immunocompromised. The organism possesses multiple resistance mechanisms, including efflux pumps, reduced outer-membrane permeability, and production of beta-lactamases. While some antibiotics such as trimethoprim-

Question 117. Which of the following causes shingles?

A. Varicella-zoster

B. Herpes simplex

C. CMV

D. None

Correct answer: A

Shingles, also known as herpes zoster, is a viral disease characterized by a painful skin rash with blisters, typically appearing in a limited area on one side of the body (a dermatome). It is caused by the reactivation of the Varicella-Zoster Virus (VZV). VZV is the same virus that causes chickenpox (varicella) as a primary infection, usually in childhood. After the primary infection resolves, the virus does not get eliminated from the body but instead becomes dormant, establishing a latent infection in the nerve cell bodies of the dorsal root ganglia, cranial nerve ganglia, or autonomic ganglia. Years or decades later, if the immune system weakens due to age, stress, or immunosuppression, the virus can reactivate. It then travels down the sensory nerve axons to the skin supplied by that nerve, causing the characteristic unilateral, dermatomal rash of shingles. Herpes simplex virus causes cold sores or genital herpes. CMV is another herpesvirus that causes different pathologies.

Question 118. The urea breath test is used to diagnose which condition?

A. H.pylori

B. Campylobacter jejuni

C. E. coli

D. Lactobacillus

Correct answer: A

No explanation is available for this recall question yet.

Question 119. Pseudo P-pulmonale is due to?

A. Hypokalemia

B. Hyponatremia

C. Hypocalcemia

D. Hypercalcemia

Correct answer: A

P-pulmonale is an ECG finding characterized by tall, peaked P waves (amplitude > 2.5 mm) in the inferior leads (II, III, aVF). It is classically a sign of right atrial enlargement (right atriopathy), often seen in patients with chronic pulmonary diseases like COPD. However, a similar ECG pattern, termed pseudo P-pulmonale, can be observed in the absence of true right atrial enlargement. This pattern can be caused by several factors, most notably electrolyte

Question 120. An Automatic Implantable Cardioverter-Defibrillator (AICD) is implanted for which condition?

A. Brugada syndrome

B. Ventricular fibrillation

C. Acute coronary syndrome with low EF

D. All of the above

Correct answer: D

An Implantable Cardioverter-Defibrillator (ICD or AICD) is a device implanted in patients who are at high risk for sudden cardiac death due to life-threatening ventricular arrhythmias. The device continuously monitors the heart rhythm and can deliver an electrical shock (defibrillation) to terminate a dangerous arrhythmia and restore a normal rhythm.Indications for an ICD can be for secondary prevention (in patients who have already survived a cardiac arrest due to ventricular fibrillation or hemodynamically unstable ventricular tachycardia) or for primary prevention (in high-risk patients who have not yet had an event).High-risk primary prevention categories include:1. Patients with inherited channelopathies that predispose to ventricular arrhythmias, such as Brugada syndrome and long QT syndrome.2. Patients with ischemic or non-ischemic cardiomyopathy and a significantly reduced left ventricular ejection fraction (EF), for example, after a large myocardial infarction (acute coronary syndrome with low EF).Since all the listed conditions are valid and common indications for ICD implantation, the correct answer

is all of the above.

Question 121. The Sabin–Feldman dye test is used to diagnose which condition?

A. Botulism

B. Toxoplasmosis

C. Sarcoidosis

D. Yellow fever

Correct answer: B

The Sabin-Feldman dye test is the gold standard serological test for the diagnosis of toxoplasmosis, an infection caused by the protozoan parasite Toxoplasma gondii. This test is a neutralization assay that detects the presence of specific IgG antibodies to Toxoplasma in a patient's serum. The principle of the test is that live, laboratory-maintained Toxoplasma tachyzoites are incubated with the patient's serum. If specific antibodies are present in the serum, they will bind to the surface of the parasites and, in the presence of complement (which is also added), will cause the parasite's cell membrane to lyse. When a dye, such as methylene blue, is added, the lysed (dead) parasites will not take up the dye and will appear as unstained ghosts. In contrast, if no antibodies are present, the parasites will remain viable and will stain blue. A high titer of antibodies indicates infection.

Question 122. Which enterovirus type is responsible for causing acute hemorrhagic conjunctivitis?

A. 69

B. 68

C. 70

D. 71

Correct answer: C

Acute Hemorrhagic Conjunctivitis (AHC) is a highly contagious eye infection characterized by a sudden onset of painful, red, and swollen eyes with prominent subconjunctival hemorrhages. It frequently occurs in large epidemics. The primary causative agents of AHC are two specific types of enteroviruses. The virus responsible for the first major pandemic of AHC, which began in 1969, was identified as Enterovirus 70 (EV70). Another major cause of AHC is a specific variant of Coxsackievirus A24 (CVA24v). While other viruses can cause conjunctivitis, the severe hemorrhagic form that

Question 123. Which site is most commonly affected by chronic gastric ulcers?

A. Pyloric antrum

B. Upper part of lesser curvature

C. Lower part of lesser curvature

D. Segment of large intestine

Correct answer: C

Chronic peptic ulcers can occur in the stomach (gastric ulcers) or the duodenum. Within the stomach, gastric ulcers have a strong predilection for a specific location. The vast majority of benign gastric ulcers occur along the lesser curvature of the stomach. The most common site is at the junction of the acid-secreting body and the gastrin-producing antrum, known as the incisura angularis, which is on the lower part of the lesser curvature. The reasons for this localization are thought to be related to the Magenstrasse or gastric canal, a channel along the lesser curvature where gastric contents flow, leading to prolonged mucosal exposure to acid and pepsin. Ulcers on the greater curvature are much less common and have a higher likelihood of being malignant. The pyloric antrum is also a common site, but the incisura on the lesser curve is the most classic location.

Question 124. What is the approximate time interval between initial HIV infection and the development of AIDS?

A. 7.5 years

B. 10 years

C. 12 years

D. 11 years

Correct answer: B

The natural history of an untreated HIV infection follows a predictable course. After the initial primary infection, there is a long period of clinical latency. During this phase, the virus continues to replicate, and there is a progressive decline in the number of CD4+ T-lymphocytes.

Question 125. A 35-year-old woman shows myocardial stunning on imaging, yet her ECG does not display typical ischemic patterns. What is the most probable diagnosis?

A. Takotsubo cardiomyopathy

B. Restrictive cardiomyopathy

C. Brugada syndrome

D. Pericarditis

Correct answer: A

Takotsubo cardiomyopathy, also known as stress cardiomyopathy or broken heart syndrome, is an acute and transient form of cardiac dysfunction that typically affects postmenopausal women and is often precipitated by intense emotional or physical stress. It clinically mimics an acute myocardial infarction, with patients presenting with chest pain and shortness of breath. However, coronary angiography reveals no significant coronary artery disease. The hallmark of the condition is a characteristic pattern of regional wall motion abnormality on echocardiography or ventriculography, showing apical ballooning of the left ventricle with basal

hyperkinesis. This appearance resembles a takotsubo, a Japanese octopus trapping pot. The ECG changes can be variable and often do not conform to a specific coronary territory, and cardiac enzyme elevation is typically modest. The myocardial stunning and atypical ECG changes in a patient without coronary artery disease are classic for this diagnosis.

Question 126. Which of the following organisms produces histamine responsible for causing scombroid fish poisoning?

A. Salmonella enterica

B. Staphylococcus aureus

C. Morganella morganii

D. Weissella confusa

Correct answer: C

Scombroid fish poisoning is a type of foodborne illness that occurs after consumption of improperly stored fish, particularly dark-meat fish such as tuna, mackerel, or bonito. When these fish are not adequately refrigerated, certain bacteria proliferate and convert histidine naturally present in fish muscle into histamine through the enzyme histidine decarboxylase. Morganella morganii is one of the most important histamine-producing bacteria implicated in this process. Ingestion of histamine-rich fish leads to symptoms resembling an allergic reaction,

Question 127. Who is recognized as the Father of Microbiology?

A. Antonie van Leeuwenhoek

B. Robert Brown

C. Jagadish Chandra Bose

D. Louis Pasteur

Correct answer: A

Antonie van Leeuwenhoek is widely regarded as the Father of Microbiology because he was the first person to observe and accurately describe microorganisms using handcrafted microscopes of exceptional quality. In the late 17th century, he examined samples of pond water, dental plaque, blood, and other materials, discovering bacteria, protozoa, sperm cells, and red blood cells—organisms he called “animalcules.” His meticulous observations opened an entirely new world of life invisible to the naked eye and laid the foundation for microbiology as a scientific discipline. Although scientists like Louis Pasteur and Robert Brown made major later contributions—such as germ theory and cell studies—Leeuwenhoek’s pioneering microscopic discoveries came first. Therefore, he is most appropriately honored as the Father of Microbiology.

Question 128. Cutaneous larva migrans is caused by which organism?

A. Strongyloides

B. Toxocara canis

C. Ancylostoma braziliense

D. Necator americanus

Correct answer: C

Cutaneous larva migrans, also known as creeping eruption, is a parasitic skin infection characterized by an intensely pruritic, erythematous, and serpiginous (snake-like) track that moves over time. The condition is caused

Question 129. Which organism is most likely to cause infection following a kidney transplant?

A. Cytomegalovirus (CMV)

B. Klebsiella

C. Streptococcus

D. Staphylococcus

Correct answer: A

Patients who undergo solid organ transplantation, such as a kidney transplant, require long-term immunosuppressive therapy to prevent graft rejection. This chronic state of immunosuppression makes them highly susceptible to a wide range of opportunistic infections. Among viral pathogens, Cytomegalovirus (CMV) is one of the most significant and common causes of morbidity and mortality in these patients. Infection can occur as a primary infection (if a CMV-negative recipient receives an organ from a CMV-positive donor), a reactivation of the recipient's latent CMV, or a superinfection with a new strain. CMV disease can manifest as a systemic febrile illness, or it can directly affect the transplanted organ (CMV nephritis) or other organ systems, causing pneumonitis, colitis, or retinitis. Because it is so common and can have severe consequences, routine monitoring for CMV viremia and prophylactic or pre-emptive antiviral therapy (e.g., with valganciclovir) is a standard part of post-transplant care. While bacterial infections also occur, CMV is the most characteristic viral pathogen in this setting.

Question 130. In a child with sickle cell anemia who develops multiple nonsuppurative osteomyelitis, which organism is the most likely cause?

A. Salmonella

B. S. aureus

C. H. influenzae

D. Enterobacter species

Correct answer: A

Osteomyelitis is a well-recognized complication of sickle cell disease due to repeated vaso-occlusion, bone infarction, and impaired immune function. Infarcted bone becomes highly susceptible to infection, particularly by enteric organisms. Among these, Salmonella species are classically associated with osteomyelitis in patients with sickle cell anemia, making this a high-yield clinical association. The bacteria likely reach bone via the bloodstream following

translocation from the gastrointestinal tract. In contrast, Staphylococcus aureus is the most common cause of osteomyelitis in the general population but is less characteristic in sickle cell disease. Patients typically present with fever, localized bone pain, swelling, and reduced limb movement. Early diagnosis and prompt antibiotic therapy are essential to prevent complications such as chronic osteomyelitis, bone destruction, and growth disturbances. Thus, Salmonella is the most likely causative organism in this scenario.

Question 131. Which of the following diseases is NOT associated with infection by Parvovirus B19?

A. Roseola infantum

B. Aplastic anemia in sickle cell disease

C. Fetal hydrops

D. Erythema infectiosum

Correct answer: A

Parvovirus B19 is a DNA virus that primarily infects erythroid precursor cells in the bone marrow, leading to several characteristic clinical conditions. It is the causative agent of erythema infectiosum (fifth disease), a common childhood illness marked by a “slapped-cheek” facial rash and mild fever. In individuals with underlying hemolytic disorders such as sickle cell disease, Parvovirus B19 can cause transient aplastic crisis

Question 132. In Bartter syndrome, which segment of the nephron is affected?

A. Defect in PCT

B. Defect in DCT

C. Defect in thick ascending limb of loop of Henle

D. None

Correct answer: C

Bartter syndrome is a group of rare, inherited salt-wasting tubulopathies characterized by hypokalemic metabolic alkalosis, hypercalciuria, and normal to low blood pressure, despite high levels of renin and aldosterone. The underlying genetic defect in classic Bartter syndrome involves one of several ion transporters located in the thick ascending limb (TAL) of the loop of Henle. The most common form (Type I) is due to a mutation in the gene for the Na-K-2Cl cotransporter (NKCC2). Other forms involve mutations in the ROMK potassium channel or the basolateral chloride channel (CLC-Kb). The dysfunction of these transporters impairs the reabsorption of sodium, potassium, and chloride in the TAL. This leads to a loss of these salts in the urine, volume depletion, and secondary hyperaldosteronism, which drives the potassium and hydrogen ion loss. The effect is similar to taking a loop diuretic like furosemide, which also targets the NKCC2 transporter.

Question 133. Hyperacute graft rejection occurs after what duration of time?

A. 24 hours

B. 2 weeks

C. In minutes

D. Years

Correct answer: C

Hyperacute rejection is the most rapid and devastating form of organ transplant rejection. It occurs almost immediately, typically within minutes to hours after the transplantation procedure, as soon as the blood supply to the transplanted organ is restored. This type of rejection is a Type II hypersensitivity reaction. It is mediated by pre-existing recipient antibodies that are specific for antigens on the donor organ's endothelium. These are typically ABO blood group antibodies or anti-HLA antibodies that the recipient has developed from previous blood transfusions, pregnancies, or prior transplants. The binding of these antibodies to the donor endothelium activates the complement and coagulation cascades, leading to widespread thrombosis, ischemia, and rapid, irreversible necrosis of the graft. Due to pre-transplant cross-matching, hyperacute rejection is now

Question 134. The Australian antigen for hepatitis B is?

A. HBsAg

B. HBeAg

C. HBcAg

D. HBV DNA

Correct answer: A

The Australia antigen is the original name given to the Hepatitis B surface antigen (HBsAg). It was discovered in 1965 by Dr. Baruch Blumberg in the serum of an Australian Aboriginal person, hence the name. Blumberg's research later linked this antigen to the hepatitis B virus, a discovery for which he was awarded the Nobel Prize. HBsAg is a protein on the surface of the hepatitis B virus. It is the first serological marker to appear in the blood after infection with HBV, typically 1 to 10 weeks after exposure. Its presence in the blood indicates that the person is currently infected with the hepatitis B virus and is potentially infectious. Persistence of HBsAg for more than six months defines a chronic HBV infection. The other markers, HBeAg (e antigen) and HBcAg (core antigen), are different components of the virus, and HBV DNA is the viral genetic material.

Question 135. Which fungus is most frequently linked to orbital cellulitis in patients with diabetic ketoacidosis?

A. Candida

B. Aspergillus

C. Rhizopus

D. None of these

Correct answer: C

The clinical scenario of orbital cellulitis in a patient with diabetic ketoacidosis (DKA) is the classic presentation of rhinocerebral mucormycosis. This is a life-threatening, rapidly progressive fungal infection caused by fungi belonging to the order Mucorales. The most common causative agent of mucormycosis is Rhizopus oryzae (also known as Rhizopus arrhizus). These fungi thrive in the high-glucose, acidic environment of DKA. The infection typically begins in the nose or paranasal sinuses and spreads rapidly to invade

Question 136. What is the recommended treatment for intractable Sydenham chorea?

A. Haloperidol

B. Valproate

C. Warfarin

D. Risperidone

Correct answer: B

Sydenham's chorea is a major neurological manifestation of acute rheumatic fever, resulting from an autoimmune reaction involving the basal ganglia. It presents with choreiform (rapid, involuntary, purposeless) movements, emotional lability, and hypotonia. While many cases are self-limiting, severe or intractable chorea requires pharmacological treatment. The current first-line treatment and drug of choice for Sydenham's chorea is sodium valproate. It has been shown to be effective in controlling the abnormal movements and has a more favorable safety profile compared to older agents. Haloperidol, a dopamine D2 receptor antagonist, is also effective but is now considered a second-line option due to the higher risk of acute extrapyramidal side effects and the potential for long-term tardive dyskinesia. Risperidone, an atypical antipsychotic, may also be used. Warfarin is an anticoagulant and is not used to treat the chorea itself.

Question 137. Which of the following is not a diagnostic criterion for Neurofibromatosis Type 1 (NF1)?

A. Brain tumor

B. Acoustic neuromas

C. Pseudoarthrosis

D. Cafe-au-lait spots

Correct answer: B

Neurofibromatosis type 1 (NF1), also known as von Recklinghausen's disease, is diagnosed based on a set of specific clinical criteria established by the National Institutes of Health. A diagnosis requires two or more of the following :Six or more café-au-lait macules of a specific size.Two or more neurofibromas of any type or one plexiform neurofibroma.Freckling in the axillary or inguinal regions (Crowe's sign).

Question 138. Echinococcus granulosus is most commonly found in which of the following animals?

A. Dog

B. Cat

C. Fox

D. Pig

Correct answer: A

Echinococcus granulosus is a cestode (tapeworm) that causes cystic echinococcosis (hydatid disease) in humans. The parasite has a complex two-host lifecycle. The definitive host, where the adult tapeworm lives in the intestine, is a canid, most commonly the dog. The adult worm in the dog's intestine produces eggs, which are passed in the feces. The intermediate hosts are typically herbivores, such as sheep, goats, cattle, and pigs, which become infected by ingesting the eggs. In the intermediate host, the eggs hatch, and the larvae migrate to organs like the liver and lungs, where they form the characteristic hydatid cysts. The lifecycle is completed when a dog ingests the cyst-containing organs of an infected intermediate host. Humans are accidental intermediate hosts, becoming infected by ingesting the eggs from soil or food contaminated with dog feces, or through direct contact with infected dogs. Cats are definitive hosts for other tapeworms like Taenia taeniaeformis.

Question 139. Which anaerobic organism causes multiple abscesses with discharging sinuses and produces sulfur granules in the pus?

A. Actinomycetes

B. Nocardia

C. Salmonella

D. Tularemia

Correct answer: A

The clinical description is the classic presentation of actinomycosis, an infection caused by bacteria of the genus Actinomyces,

Question 140. Whole blood is used as the sample for which test?

A. Bacterial culture

B. IGRA (Interferon-Gamma Release Assay)

C. GeneXpert

D. Viral serology

Correct answer: B

The Interferon-Gamma Release Assay (IGRA) is a blood test used to diagnose latent tuberculosis infection. The principle of the test is to measure the cell-mediated immune response to Mycobacterium tuberculosis antigens. To do this, a sample of whole blood containing the patient's T-lymphocytes is required. The blood is incubated in tubes containing

specific MTB antigens (such as ESAT-6 and CFP-10). If the patient's T-cells have been previously sensitized to these antigens (i.e., the patient has a TB infection), they will be stimulated to produce and release Interferon-gamma (IFN-γ). The amount of IFN-γ released is then measured, typically by an ELISA method. Bacterial culture for sepsis also uses blood, but it is inoculated into special culture media. GeneXpert is typically performed on sputum or other tissue samples. Viral serology is performed on serum or plasma, not whole blood.

Question 141. Which drug can be used as an alternative during cardiac arrest if epinephrine is unavailable?

A. Amiodarone infusion

B. Atropine

C. High-dose Vasopressin

D. Adenosine

Correct answer: C

In the Advanced Cardiac Life Support (ACLS) algorithms for cardiac arrest, epinephrine is the primary vasopressor used to increase coronary and cerebral perfusion pressure during CPR. However, for a period, the guidelines included vasopressin as an alternative or in combination with epinephrine. Vasopressin is a potent non-adrenergic vasoconstrictor that acts on V1 receptors. A single dose of 40 units of vasopressin could be used to replace either the first or second dose of epinephrine in the treatment of pulseless electrical activity (PEA), asystole, or ventricular fibrillation. While more recent guideline updates have removed vasopressin from the main algorithm due to studies showing no superior benefit over epinephrine, it was historically recognized as a valid alternative vasopressor in cardiac arrest. Amiodarone is an antiarrhythmic. Atropine is used for bradycardia. Adenosine is for supraventricular tachycardia.

Question 142. Heller's myotomy is done for which condition?

A. Zenker's diverticulum

B. Achalasia cardia

C. Bunions

D. Knee arthroscopy

Correct answer: B

Achalasia cardia is a primary esophageal motility disorder characterized by two key features : impaired relaxation of the lower esophageal sphincter (LES) upon swallowing and the absence of normal peristalsis in the body of the esophagus. This leads to a functional obstruction at the gastroesophageal junction, causing symptoms like dysphagia (difficulty swallowing), regurgitation, and chest pain. The Heller myotomy is the standard surgical treatment for achalasia. The procedure involves making a longitudinal incision through the

Question 143. Which condition may not benefit from oxygen therapy?

A. Asthma

B. Pneumonia

C. Subglottic stenosis

D. Pulmonary fibrosis

Correct answer: C

Oxygen therapy is beneficial in conditions where hypoxemia results from impaired gas exchange at the alveolar level. In asthma, oxygen helps correct hypoxia caused by bronchospasm and ventilation–perfusion mismatch. In pneumonia, alveoli are filled with inflammatory exudate, impairing oxygen diffusion, so supplemental oxygen improves arterial oxygenation. In pulmonary fibrosis, thickening of the alveolar membrane reduces diffusion capacity, and oxygen therapy increases the oxygen gradient, improving blood oxygen levels.However, subglottic stenosis is an upper airway obstruction located below the vocal cords. The primary issue is mechanical narrowing of the airway, not impaired oxygen diffusion. Simply giving oxygen does not relieve the obstruction. These patients require airway management such as nebulization, steroids, dilation, or possibly surgical intervention. While oxygen may be given temporarily, it does not correct the underlying problem.Therefore, the condition that may not significantly benefit from oxygen therapy is (C) Subglottic stenosis.

Question 144. Mobitz type II second-degree AV block occurs in all of the following conditions, except which one?

A. Myocardial infarction

B. Fibrosis of the conduction system

C. Hyperkalemia

D. Respiratory failure

Correct answer: D

Mobitz type 2 second-degree AV block is characterized by intermittent non-conducted P waves without progressive PR interval prolongation. It usually indicates disease of the His–Purkinje system and is considered more serious than Mobitz type 1 because it may progress to complete heart block.

Question 145. What is the recommended drug regimen for a pregnant woman diagnosed with HIV infection?

A. Tenofovir disoproxil fumarate with emtricitabine

B. Tenofovir disoproxil fumarate with lamivudine

C. Abacavir with lamivudine

D. Any of the above NRTI backbones may be used in combination with a third agent (e.g., dolutegravir

Correct answer: D

In pregnancy, the goal of HIV treatment is to maintain maternal health and prevent vertical

transmission to the fetus. Current guidelines recommend combination antiretroviral therapy (ART) consisting of two nucleoside reverse transcriptase inhibitors (NRTIs) plus a third agent, usually an integrase strand transfer inhibitor like dolutegravir.Tenofovir disoproxil fumarate (TDF) with either emtricitabine (FTC) or lamivudine (3TC) are commonly used and considered safe in pregnancy. Abacavir with lamivudine is another acceptable NRTI backbone in women who are HLA-B5701 negative. Since all these NRTI combinations are acceptable when combined with an appropriate third drug, the correct answer is (D).

Question 146. What is the earliest clinical sign of third cranial nerve involvement in a patient with diabetes mellitus?

A. Normal light reflex

B. Abnormal light reflex

C. Normal light and accommodation reflex

D. Abnormal light and accommodation reflex

Correct answer: C

In patients with diabetes mellitus, third cranial nerve (oculomotor nerve) palsy is commonly caused by microvascular ischemia affecting the central core of the nerve. The oculomotor nerve contains motor fibers centrally and parasympathetic (pupillary) fibers peripherally.In diabetic third nerve palsy, the central motor fibers are affected first, leading to ptosis and limitation of eye movements (ophthalmoplegia). However, the peripheral parasympathetic fibers that control the pupil are usually spared because they receive a richer blood supply.As a result, the pupil remains normal, and both the light reflex and accommodation reflex are preserved in the early stages. This phenomenon is known as pupil-sparing third nerve palsy, which is characteristic of diabetic ischemic neuropathy.In contrast, compressive lesions (such as a posterior communicating artery aneurysm) typically affect the peripheral parasympathetic fibers first, leading to an abnormal light reflex.Therefore, the earliest clinical finding is (C) Normal light and accommodation reflex.

Question 147. Which of the following conditions lead to hypokalemic metabolic alkalosis accompanied by hypertension?

A. Liddle syndrome

B. Bartter syndrome

C. Gitelman syndrome

D. Renal tubular acidosis

Correct answer: A

The combination of hypokalemic metabolic alkalosis (low potassium, high bicarbonate) and hypertension is a key finding that points towards a state of mineralocorticoid excess or apparent mineralocorticoid excess. Liddle syndrome is a rare, autosomal dominant genetic disorder that perfectly fits this profile. It is caused by a gain-of-function mutation in the genes

for the epithelial sodium channel (ENaC) in the collecting ducts of the kidney. This mutation leads to constitutive, unregulated reabsorption of sodium, independent of aldosterone. The excessive sodium reabsorption causes volume expansion and severe hypertension. It also creates a negative electrical potential in the tubular lumen, which drives the secretion and subsequent loss of potassium and hydrogen ions, resulting in hypokalemia and metabolic alkalosis. A key feature is that renin and aldosterone levels are suppressed. Bartter and Gitelman syndromes cause hypokalemic alkalosis but with normal or low blood pressure.

Question 148. A patient has cutaneous vasculitis, glomerulonephritis, and peripheral neuropathy. Which investigation should be done next to aid in diagnosing the condition?

A. ANCA (Anti-Neutrophil Cytoplasmic Antibodies)

B. RA factor (Rheumatoid Factor)

C. HbsAg (Hepatitis B Surface Antigen)

D. MIF (Macrophage Inhibitory Factor)

Correct answer: A

The clinical triad of cutaneous vasculitis (e.g., palpable purpura), glomerulonephritis (causing hematuria and proteinuria), and peripheral neuropathy (mononeuritis multiplex) is highly suggestive of a systemic small-vessel vasculitis. The most important initial investigation to differentiate between the types of small-vessel vasculitis is testing for Anti-Neutrophil Cytoplasmic Antibodies (ANCA). ANCA-associated vasculitides include Granulomatosis with Polyangiitis (GPA, formerly Wegener's), Microscopic Polyangiitis (MPA), and Eosinophilic Granulomatosis with Polyangiitis (EGPA, formerly Churg-Strauss). A positive c-ANCA (anti-PR3) is highly specific for GPA, while a positive p-ANCA (anti-MPO) is typically seen in MPA. The results of the ANCA test are crucial for establishing a diagnosis and guiding treatment with immunosuppressive therapy. While HBsAg can be associated with polyarteritis nodosa (a medium-vessel vasculitis), the presentation is more classic for an ANCA-associated small-vessel vasculitis.

Question 149. According to GOLD criteria, what FEV_1 percentage defines very severe COPD?

A. FEV1>80% of normal

B. FEV1 <50-79% of normal

C. FEV1 <30-49% of normal

D. FEV1 <30% of normal

Correct answer: D

The Global Initiative for Chronic Obstructive Lung Disease (GOLD) provides a framework for the diagnosis and management of Chronic Obstructive Pulmonary Disease (COPD). A key component of this is the classification of the severity of airflow limitation based on

post-bronchodilator spirometry. The diagnosis of COPD requires a post-bronchodilator FEV1/FVC ratio of less than 0.70. Once diagnosed, the severity is graded based on the forced expiratory volume in one second (FEV1) as a percentage of the predicted normal value. The grades are :1. GOLD 1 (Mild) : FEV1 ≥ 80% predicted2. GOLD 2 (Moderate) : 50% ≤ FEV1 < 80% predicted

Question 150. Out of 100 women who were given oral contraceptive pills (OCPs) for contraception, 10 became pregnant during a 24-month follow-up period. What is the Pearl Index?

A. 10

B. 5

C. 4

D. 2

Correct answer: B

The Pearl Index is a common statistical method used to measure the effectiveness of a birth control method. It calculates the number of accidental pregnancies per 100 woman-years of exposure. The formula for the Pearl Index is :Pearl Index = (Number of accidental pregnancies / Total months of exposure) × 1200 (The multiplication by 1200 converts the rate to pregnancies per 100 women observed for one year).In this problem : Number of women = 100 Number of accidental pregnancies = 10 Follow-up period = 24 months Total months of exposure = Number of women × Follow-up period = 100 × 24 = 2400 months.Pearl Index = (10 / 2400) × 1200 Pearl Index = 10 / 2 = 5.This means that if 100 women use this method for one year, it is expected that 5 of them will experience an accidental pregnancy.

Question 151. Which of the following substances does not contribute to water hardness?

A. Calcium carbonate

B. Calcium sulphate

C. Calcium bicarbonate

D. Magnesium bicarbonate

Correct answer: A

The hardness of water is primarily caused by the presence of dissolved mineral salts of divalent cations, mainly calcium () and magnesium (). Hardness is classified into two types : temporary and permanent.Temporary hardness is caused by the presence of bicarbonate salts of calcium and magnesium, such as calcium bicarbonate () and magnesium bicarbonate (). This type of hardness can be removed by boiling the water,

Question 152. Which of the following is not an example of direct transmission of communicable diseases?

A. Transplacental (vertical)

B. Soil

C. Respiratory

D. STD

Correct answer: B

The transmission of communicable diseases is broadly categorized into direct and indirect transmission. Direct transmission involves the immediate transfer of an infectious agent from an infected host or reservoir to a susceptible host. This includes : Direct contact (touching, kissing), such as in sexually transmitted diseases (STD).Droplet spread through coughing, sneezing, or talking, i.e., the respiratory route over a short distance.Transplacental or vertical transmission from mother to fetus. Indirect transmission occurs when the infectious agent is transferred via an intermediate vehicle, vector, or airborne route. Transmission through soil is a form of vehicle-borne indirect transmission. The soil acts as a reservoir for the infectious agent (e.g., tetanus spores, hookworm larvae), which can then enter a susceptible host through a break in the skin. Because the soil acts as an inanimate intermediate object, this is not considered direct transmission.

Question 153. What value of BMI should be considered "lethal" in men?

A. 12

B. 18

C. 13

D. 14

Correct answer: A

Body Mass Index (BMI) is a simple measure used to assess body weight relative to height and is calculated as weight in kilograms divided by height in meters squared (kg/m^2). In adult men, a normal BMI ranges from 18.5 to 24.9. A BMI below 18.5 is considered underweight, and values below 16 indicate severe malnutrition. When BMI falls to extremely low levels such as 12, it is considered life-threatening or “lethal.”At a BMI of around 12, the body has critically low fat and muscle stores. This leads to severe protein–energy malnutrition, weakened immunity, electrolyte imbalance, cardiac arrhythmias, hypotension, hypothermia, and multi-organ dysfunction. The heart muscle becomes weak, increasing the risk of sudden cardiac death. Such low BMI levels are commonly seen in advanced anorexia nervosa or prolonged starvation and are associated with very high mortality rates.In contrast, BMI values such as 13 or 14 are also extremely dangerous but may not always be immediately fatal with urgent medical intervention. Therefore, a BMI of 12

Question 154. A disease has an incidence of 4 per 100 population and an average duration of 2 years. What is its prevalence?

A. 8 per 1000

B. 4 per 1000

C. 2 per 1000

D. 6 per 1000

Correct answer: A

In stable epidemiological conditions (where incidence, duration, and population size are relatively constant), there is a well-established relationship between prevalence, incidence, and the duration of a disease. Prevalence refers to the total number of existing cases (new and old) in a population at a specific point in time, while incidence refers to the rate of new cases occurring over a period. The formula that connects these three variables is :Prevalence = Incidence × Average Duration of the Disease This formula is applicable for chronic diseases where the prevalence is low (typically less than 10%).Given the data in the question : Incidence = 4 cases per 1000 population per year.Average Duration = 2 years.Prevalence = (4 / 1000) × 2 = 8 / 1000.Therefore, the prevalence of the disease is estimated to be 8 per 1000 of the population. This means that at any given time, 8 out of every 1000 people in the population are expected to have the disease.

Question 155. By which method are cytotoxic and expired drugs disposed of?

A. Dumping

B. Autoclave

C. Landfill

D. Burning (Incineration)

Correct answer: D

Cytotoxic drugs (antineoplastic or chemotherapy drugs) and expired pharmaceutical products are classified as hazardous biomedical waste. These substances are chemically reactive and potentially genotoxic, carcinogenic, or teratogenic, posing a significant risk to public

Question 156. What should the couple protection rate be for the Net Reproduction Rate (NRR) to equal 1?

A. 50%

B. 60%

C. 55%

D. 75%

Correct answer: B

The Net Reproduction Rate (NRR) is a demographic indicator that represents the average number of daughters that would be born to a woman (or a group of women) if she passed through her lifetime conforming to the age-specific fertility and mortality rates of a given year. An NRR of 1 signifies that each generation of mothers is producing exactly enough daughters to replace itself, leading to a stable population size over the long term (zero population growth). To achieve this replacement-level fertility, a certain proportion of couples in the reproductive age group must be using contraception. The Couple Protection Rate (CPR) is the percentage of

eligible couples effectively protected against childbirth by one or another approved method of family planning. It has been estimated that a CPR of approximately 60% is required for a population to achieve an NRR of 1. This is a crucial target for national family planning programs aiming for population stabilization.

Question 157. In a diabetes mellitus (DM) screening program involving 1,000 individuals, 90 people tested positive on the screening test. However, a confirmatory gold-standard test showed that 100 individuals actually had the disease. What is the sensitivity of the screening test?

A. 90/100

B. 100/110

C. 80/100

D. 100/100

Correct answer: A

Sensitivity is a measure of a screening test's ability to correctly identify individuals who truly have the disease. It is calculated as the proportion of true positives among all individuals who actually have the disease. The formula for sensitivity is :Sensitivity = (True Positives) / (True Positives + False Negatives) In this problem : The total number of people who truly have the disease (as determined by the gold standard test) is 100. This is the denominator (True Positives + False Negatives).The number of people who tested positive with the screening test is 90. This represents the True Positives.We can infer that 10 people who had the disease were missed by the screening test (100 total diseased - 90 who tested positive = 10 False Negatives).Therefore, the sensitivity of the screening test is calculated as :Sensitivity = 90 / (90 + 10) = 90 / 100.This means the test correctly identifies 90% of all people who actually have diabetes mellitus.

Question 158. Which drug is used for mass chemoprophylaxis in meningococcal meningitis?

A. Rifampicin

B. Chloramphenicol

C. Tetracycline

D. Penicillin

Correct answer: A

Chemoprophylaxis for meningococcal meningitis is recommended for close contacts of a person with the disease to eradicate nasopharyngeal carriage of Neisseria meningitidis and prevent secondary cases. In situations of a large-scale outbreak, mass chemoprophylaxis may be considered. The drugs of choice for this purpose must be effective, easy to administer, and safe for large populations. Rifampicin has historically been a primary agent for mass chemoprophylaxis. It is highly effective at eradicating nasopharyngeal carriage and is given

orally for two days. However, it has several contraindications (e.g., pregnancy, liver disease) and can lead to resistance. For this reason, other agents like ciprofloxacin (single oral dose) or ceftriaxone (single intramuscular injection) are now often preferred, especially for individual contacts. Nevertheless, rifampicin remains a recognized and effective option for mass prophylaxis. Penicillin is used for treatment, not prophylaxis, as it does not reliably eliminate the carrier state.

Question 159. Which of the following represents the active form of chlorination?

A. Hypochlorite ion

B. Hydrogen chloride

C. Hypochlorous acid

D. Chloride ion

Correct answer: C

Chlorination is the most common method of water disinfection. When chlorine is added to water, it reacts with the water to form two compounds : hypochlorous acid (HOCl) and hydrochloric acid (HCl). The hypochlorous acid can then dissociate into a hypochlorite ion (OCl-) and a hydrogen ion (H+). The relative proportion of HOCl and OCl- depends on the pH of the water. Both hypochlorous acid and the hypochlorite ion have disinfecting properties, but hypochlorous acid (HOCl) is the much more potent and effective disinfecting agent. It is estimated to be about 80 to 100 times more effective at killing microorganisms than the

Question 160. Kala-azar occurs in all endemic regions except which one?

A. West Bengal

B. Uttar Pradesh (UP)

C. Bihar

D. Assam

Correct answer: D

Kala-azar, or visceral leishmaniasis, is a vector-borne parasitic disease caused by Leishmania donovani and transmitted by sandflies. In India, the disease has historically been highly endemic in specific states in the eastern part of the country. The most heavily affected states, which account for the vast majority of cases in India, are Bihar, Jharkhand, West Bengal, and the eastern districts of Uttar Pradesh. These four states are the focus of the national Kala-azar elimination program. While sporadic cases may occur elsewhere, Assam, located in the northeastern region of India, is not considered a traditional endemic area for Kala-azar. The epidemiology of the disease is very focal, depending on the presence of the specific sandfly vector (Phlebotomus argentipes) and other environmental factors that are concentrated in the plains of the states mentioned above.

Question 161. The ratio of risk in the exposed group to the risk in the unexposed

group is referred to as what?

A. Relative risk

B. Odds ratio

C. Attributable risk

D. None of the above

Correct answer: A

Relative Risk (RR), also known as the risk ratio, is a key measure of association used in epidemiological studies, particularly in cohort studies and randomized controlled trials. It quantifies the strength of the association between an exposure and an outcome. It is calculated as the ratio of the incidence (or

Question 162. Pasteurization is carried out at what temperature and for what duration?

A. 73°C for 20 min

B. 63°C for 30 min

C. 72°C for 30 seconds

D. 63°C for 30 seconds

Correct answer: B

Pasteurization is a process of heat treatment used to kill pathogenic microorganisms in foods and beverages, such as milk, to make them safe for consumption and to extend their shelf life. There are several standard time-temperature combinations for pasteurizing milk. One of the original methods is the Holder method, or low-temperature long-time (LTLT) pasteurization. This method involves heating the milk to a temperature of 63°C (145°F) and holding it at that temperature for at least 30 minutes. Another common method is high-temperature short-time (HTST) pasteurization, which involves heating the milk to 72°C (161°F) for 15 seconds. Option (B) correctly describes the Holder method. Option (C) is close to the HTST method but has the wrong time. The other options list incorrect time-temperature combinations.

Question 163. What is the recommended interval between two live vaccines?

A. 2 weeks

B. 4 weeks

C. 8 weeks

D. 12 weeks

Correct answer: B

No explanation is available for this recall question yet.

Question 164. When a susceptible person develops a disease within the incubation period after exposure to the primary case, what is this called?

A. Secondary attack rate

B. Case fatality rate

C. Primary attack rate

D. Tertiary attack rate

Correct answer: A

The Secondary Attack Rate (SAR) is a measure of the infectivity or contagiousness of a disease and is used to evaluate control measures. It is defined as the number of new cases of a disease that occur among the susceptible contacts of a known primary case, within one incubation period of the disease. The formula is :SAR = (Number of new cases among contacts / Total number of susceptible contacts) × 100.This rate specifically measures the spread of a disease from the initial case (primary case) to those who were directly exposed to that case. It is a useful metric for investigating disease outbreaks in closed settings like households, schools, or barracks. The primary attack rate refers to the rate of disease among all those exposed during an outbreak. The case fatality rate is the proportion of cases that result in death.

Question 165. What is the name of the new online RNTCP software used to monitor the TB control programme?

A. NIKSHAY

B. NICHAY

C. E-DOTS

D. NIRBHAI

Correct answer: A

NIKSHAY (derived from Ni for end and Kshay for TB) is a web-based and mobile-based health information management system developed and implemented by the Government of India for the National Tuberculosis Elimination Program (NTEP), formerly known as RNTCP. It was launched in 2012 to comprehensively monitor and manage TB patients and control program activities across the country. NIKSHAY serves as a unified interface for all stakeholders, including public and private healthcare providers, laboratories, and program managers. It is used for the mandatory notification of all TB cases, tracking patients from diagnosis through treatment completion, managing drug supplies, and monitoring treatment adherence. The system also integrates features for direct benefit transfers (Nikshay Poshan Yojana) to support patients' nutritional needs. It is a critical digital tool in India's strategy to eliminate tuberculosis by 2025, enabling real-time surveillance and improving the quality of patient care and program management.

Question 166. What is the study unit in an ecological study?

A. Population

B. Patient

C. Community

D. Case

Correct answer: A

In epidemiology, different study designs use different units of observation and analysis. In most study designs, such as case-control studies or cohort studies, the unit of analysis is the individual (e.g., a patient or a case). However, an ecological study (also known as a correlational study) is unique in that the unit of analysis is not the individual but an entire population or a group of people. These studies examine the relationship between an exposure and an outcome by using aggregate data for a population, rather than data on individual members. For example, an ecological study might correlate the average per capita cigarette sales in different countries with the age-adjusted

Question 167. Acute tonsillitis most commonly involves which of the following cranial nerves?

A. Glossopharyngeal nerve

B. Facial nerve

C. Trigeminal nerve

D. Vagus nerve

Correct answer: A

No explanation is available for this recall question yet.

Question 168. Water’s view is used to visualize which sinus for diagnostic purposes?

A. Maxillary sinus

B. Ethmoidal sinuses

C. Frontal sinus

D. Sphenoid sinus

Correct answer: A

The Water's view, also known as the occipitomental view, is a specific radiographic projection used to visualize the paranasal sinuses. To obtain this view, the patient's head is tilted back so that the petrous ridges of the temporal bones are projected below the floor of the maxillary sinuses. This positioning provides an unobstructed view of the maxillary sinuses, making it the best standard radiographic view for evaluating them for fluid levels (air-fluid levels), mucosal thickening, or opacification, which are signs of sinusitis. It also provides good visualization of the floors and lateral walls of the orbits, the zygomatic bones, and the nasal septum. While other sinuses like the frontal and sphenoid sinuses are also visible on this view, the primary purpose and greatest diagnostic utility

Question 169. What is the indication for a tracheostomy?

A. Vocal cord replacement

B. Pharynx replacement

C. Tracheomalacia

D. Foreign body obstructing the airway

Correct answer: D

A tracheostomy is a surgical procedure to create an opening into the trachea (windpipe) through the neck to establish a direct airway. The indications for tracheostomy can be broadly grouped into three categories : upper airway obstruction, prolonged mechanical ventilation, and poor pulmonary toilet (inability to clear secretions). A foreign body obstructing the airway at or above the level of the larynx that cannot be removed by other means (like the Heimlich maneuver or direct laryngoscopy) is an absolute indication for an emergent surgical airway. This bypasses the obstruction and secures a patent airway. While a cricothyroidotomy is often faster in an emergency, a tracheostomy may be performed. Tracheomalacia (C), or weakness of the tracheal cartilage, can be a complication of or an indication for tracheostomy, but obstruction is a more direct and acute reason. Vocal cord (A) and pharynx (B) replacement are not indications for this procedure.

Question 170. Caldwell's view is used for?

A. Maxillary sinus

B. Frontal sinus

C. Ethmoidal sinus

D. All of the above

Correct answer: D

Caldwell’s view (occipitofrontal view) is an X-ray projection used in the assessment of the paranasal sinuses. In this view, the central beam is angled about 15° caudally, which projects the petrous ridges into the lower third of the orbits.This view clearly demonstrates the frontal sinuses, making it especially useful in diagnosing frontal sinusitis and fractures. It also provides good visualization of the anterior ethmoidal sinuses. Although the maxillary sinuses are

Question 171. Where will be the placement location for the Audltory Brainstem Implant?

A. Scala tympani

B. Recess of4th ventricle

C. IAC

D. back ofear

Correct answer: B

Recess of 4th ventricleAn Auditory Brainstem Implant (ABI) is used in patients who are not suitable candidates for a cochlear implant, particularly those with bilateral cochlear nerve damage, such as in neurofibromatosis type 2. Unlike a cochlear implant, which stimulates the cochlear nerve within the inner ear, an ABI directly stimulates the cochlear nuclei in the brainstem.The implant electrode array is surgically placed in the lateral recess of the fourth ventricle, specifically over the cochlear nucleus on the surface of the brainstem. This location

allows the device to bypass the damaged cochlea and auditory nerve and directly stimulate the central auditory pathway.The scala tympani is the placement site for a cochlear implant, not a brainstem implant. The internal auditory canal (IAC) contains cranial nerves VII and VIII but is not the site of ABI electrode placement. “Back of ear” refers to the external processor placement, not the internal electrode.Therefore, the correct placement site for an Auditory Brainstem Implant is the recess of the fourth ventricle.

Question 172. Which organism is responsible for causing severe conjunctivitis?

A. Neisseria

B. Staphylococcus

C. Streptococcus

D. Hemophilus

Correct answer: A

Hyperacute bacterial conjunctivitis is a severe, sight-threatening form of conjunctivitis characterized by a very rapid onset (within 12-24 hours) of copious purulent discharge, marked chemosis (conjunctival swelling), eyelid edema, and pain. The classic and most important cause of hyperacute conjunctivitis is Neisseria gonorrhoeae. This is considered an ophthalmic emergency because the gonococcus is one of the few bacteria that can penetrate an intact corneal epithelium, leading rapidly to corneal ulceration, perforation, and permanent vision loss if not treated aggressively with systemic and topical antibiotics. Gonococcal conjunctivitis in newborns (ophthalmia neonatorum) is particularly devastating. While other bacteria like Staphylococcus, Streptococcus, and Haemophilus can cause acute bacterial conjunctivitis, the hyperacute and most severe form is classically associated with Neisseria.

Question 173. Which of the following illustrates simple myopic astigmatism?

A. +1.00 DS

B. -1.00 DS-1.00 DC X 180 degree

C. -1.00 DS

D. -1.00 DC X 180 degree

Correct answer: D

Astigmatism occurs when the eye has different refractive powers at different meridians. In simple astigmatism, one of the two principal meridians is emmetropic (in focus on the retina), while the other is either myopic or hyperopic. In Simple Myopic Astigmatism, one

Question 174. Blow out fracture of orbit most commonly involves:

A. Floor

B. Medial wall

C. Lateral wall

D. Roof

Correct answer: A

A blowout fracture is a specific type of orbital fracture that is caused by a sudden increase in intraorbital pressure from a blunt, non-penetrating trauma to the globe, such as from a fist or a ball. The force is transmitted to the orbital contents, and the pressure causes a fracture of one of the thin walls of the orbit, while the stronger orbital rim remains intact. The orbital floor (the roof of the maxillary sinus) is the most common site to be involved in a blowout fracture. The second most common site is the medial wall (the lamina papyracea of the ethmoid bone). These two walls are the thinnest and weakest parts of the bony orbit. The lateral wall and the roof are much thicker and stronger and are fractured much less frequently by this mechanism. A fracture of the floor can lead to entrapment of the inferior rectus muscle, causing restricted upward gaze, and enophthalmos (sunken eye).

Question 175. A diabetic patient develops hypopyon two days after undergoing cataract surgery. What is the appropriate management?

A. Intravitreal antibiotics

B. Eye drops

C. Surgery

Correct answer: C

+3DIn an emmetropic elderly individual, near vision difficulty is primarily due to presbyopia, which results from age-related loss of accommodation. By around 60 years of age, the amplitude of accommodation becomes nearly zero, and the typical near addition required is approximately +3.00 diopters for comfortable reading at 33 cm (since 1 / 0.33 m ≈ 3 D).Thus, even if the patient is emmetropic for distance vision (no refractive error), they will require about +3 D for near tasks.The other options are incorrect because:1. +1 D and +2 D are usually required at earlier stages of presbyopia.2. +4 D is more than what is typically needed for standard reading distance in elderly patients.Therefore, the appropriate answer is (C) +3 D.

Question 176. In which condition is 100-day glaucoma observed?

A. Central retinal vein occlusion (CRVO)

B. Neovascular glaucoma

C. Central retinal artery occlusion (CRAO)

D. Steroid-induced glaucoma

Correct answer: A

Neovascular glaucoma (NVG) is a severe, secondary form of glaucoma characterized by the growth of new, abnormal blood vessels (neovascularization) over the iris (rubeosis iridis) and into the trabecular meshwork in the anterior chamber angle. These vessels obstruct the outflow of aqueous humor, leading to a rapid and often dramatic rise in intraocular pressure. The most common cause of NVG is severe, widespread retinal ischemia. The ischemic retina releases vasoproliferative factors, primarily Vascular Endothelial Growth Factor (VEGF), which stimulate

the neovascularization. The two main underlying conditions that cause this level of ischemia are proliferative diabetic retinopathy and ischemic Central Retinal Vein Occlusion (CRVO). Following an ischemic CRVO, NVG typically develops after a latent period, classically around 3 months, or approximately 100 days, earning it the historical name 100-day glaucoma.

Question 177. Roth spots are seen in?

A. Uveal melanoma

B. Acute leukaemia

C. Both a & b

D. None of the above

Correct answer: B

Roth spots are retinal hemorrhages that have a white or pale center. They are a non-specific finding observed on fundoscopic examination. The white center is thought to be composed of a fibrin-platelet plug, an accumulation of inflammatory cells, or aggregates of neoplastic cells. While classically associated with subacute bacterial endocarditis, Roth spots can be seen in a wide variety of systemic conditions. These include hematological disorders such as leukemia (both acute and chronic), pernicious anemia, and thrombocytopenia. They are also seen in collagen vascular diseases like lupus, systemic infections (endocarditis, HIV), and conditions causing anoxia or vascular damage, such as diabetic retinopathy and hypertension. Therefore, among the given options, Roth spots are a well-recognized manifestation of acute leukemia, where they may represent retinal hemorrhage with a central collection of leukemic blasts. Uveal melanoma is a primary eye tumor and does not cause Roth spots.

Question 178. Which muscle acts as the yoke muscle for the right lateral rectus?

A. Left medial rectus

B. Left superior rectus

C. Left lateral rectus

D. Left inferior oblique

Correct answer: A

Yoke muscles are pairs of extraocular muscles, one in each eye, that are the primary movers of the two eyes into a specific direction of gaze. According to Hering's law of equal innervation, when a voluntary command is sent to move the eyes, the yoke muscles in both eyes receive equal and simultaneous innervation to ensure that the movements are conjugate (coordinated). The right lateral rectus muscle is the primary abductor of the right eye, moving it to the right (dextroversion). To maintain conjugate gaze to

Question 179. According to the ISNT rule, which part of the neuroretinal rim is the thinnest?

A. Inferior

B. Superior

C. Temporal

D. Medial

Correct answer: C

The ISNT rule describes the normal configuration of the neuroretinal rim thickness in a healthy optic disc. According to this rule, the rim thickness follows the order:I > S > N > T(Inferior > Superior > Nasal > Temporal)This means the inferior rim is the thickest, followed by the superior rim, then the nasal rim, and the temporal rim is the thinnest.The ISNT rule is clinically important in glaucoma evaluation. In glaucomatous optic neuropathy, this pattern is often disrupted, with early thinning typically occurring in the inferior

Question 180. What is the most frequent cause of chronic pancreatitis?

A. Chronic alcohol

B. Chronic pancreatic calculi

C. Pancreas divisum

D. Gall bladder stones

Correct answer: A

Chronic pancreatitis is a progressive inflammatory disease of the pancreas characterized by irreversible destruction of the pancreatic parenchyma, fibrosis, and loss of both exocrine and endocrine function. While there are numerous causes, the most common etiology by a significant margin in the Western world and many other parts of the globe is chronic and heavy alcohol consumption. Alcohol abuse is responsible for approximately 70-80% of all cases of chronic pancreatitis. Alcohol is believed to be directly toxic to pancreatic acinar cells and to alter the composition of pancreatic secretions, leading to the formation of protein plugs that obstruct small pancreatic ducts. This obstruction and direct toxicity initiate a cycle of inflammation and fibrosis that eventually destroys the gland. Gallstones are the most common cause of acute pancreatitis, but not chronic. Pancreatic calculi are a consequence, not a primary cause. Pancreas divisum is a congenital anomaly that is a less common cause.

Question 181. Which of the following statements about keloid is true?

A. It contains growth factor

B. Extended excision is the treatment of choice

C. It does not extend beyond the wound

D. None of the above

Correct answer: A

A keloid is a type of abnormal scar that results from an overgrowth of dense fibrous tissue, developing after a skin injury heals. Unlike a hypertrophic scar, a keloid characteristically extends beyond the boundaries of the original wound. This uncontrolled proliferation is

Question 182. Estimate the amount of Ringer’s lactate required during the first hours for a 0-kg male patient with 0% second-degree burns.

A. 8 litres

B. 4 litres

C. 2 litres

D. 6 litres

Correct answer: B

4 litersFluid resuscitation in burn patients is calculated using the Parkland formula, which is:4 mL × body weight (kg) × % Total Body Surface Area (TBSA) burned For this patient:4 mL × 50 kg × 40 = 8000 mL (8 litres) in the first 24 hours.According to the Parkland protocol:Half of the total fluid is given in the first 8 hours (from the time of burn injury).The remaining half is administered over the next 16 hours.So, half of 8 litres = 4 litres in the first 8 hours.Therefore, the correct answer is (B) 4 litres.Urine output (target: 0.5–1 mL/kg/hour in adults) is closely monitored to adjust fluid therapy. Adequate resuscitation is essential to prevent burn shock and maintain organ perfusion.

Question 183. In which condition is the Ankle–Brachial Pressure Index (ABPI) falsely elevated? MEDINK CHAPTER 12_SURGERY

A. Arteriosclerosis calcified arteries

B. Ischemic ulcers

C. Intermittent claudication

D. Deep vein thrombosis (DVT)

Correct answer: A

The Ankle-Brachial Pressure Index (ABPI or ABI) is a simple, non-invasive test used to assess for peripheral artery disease (PAD). It is calculated by dividing the systolic blood pressure at the ankle by the systolic blood pressure in the arm. A normal ABI is between 1.0 and 1.4. An ABI < 0.9 is diagnostic of PAD, with the value correlating to disease severity (intermittent claudication, ischemic ulcers). However, in some patients, particularly those with long-standing diabetes, chronic kidney disease, or advanced age, the arteries of the lower leg (tibial arteries) can become heavily calcified and hardened due to medial arterial calcification (Mönckeberg's sclerosis). These calcified arteries are non-compressible. When a blood pressure cuff is inflated around the ankle, it cannot fully compress the rigid artery, leading to a falsely and artificially elevated ankle pressure reading. This can result in a misleadingly normal or even abnormally high ABI (e.g., > 1.4), masking the presence of severe underlying PAD.

Question 184. Which factor is not included in the Van Nuys Prognostic Index (VNPI)?

A. Tumor size

B. Margin width

C. Estrogen receptor (ER) status

D. Nuclear grade and necrosis

Correct answer: C

The Van Nuys Prognostic Index (VNPI) is a scoring system used to assess the risk of local recurrence in patients with ductal carcinoma in situ (DCIS) and to guide treatment decisions (e.g., excision alone, excision with radiotherapy, or mastectomy).The VNPI includes the following factors:1. Tumor size2. Margin width (surgical margin status)3. Pathological classification — specifically nuclear grade and presence of comedo necrosis

Question 185. Which tissue layers are incised during a fasciotomy?

A. Skin

B. Skin + subcutaneous fascia

C. Skin + subcutaneous tissue + superficial fascia

D. Skin + subcutaneous tissue + superficial fascia + deep fascia

Correct answer: D

A fasciotomy is an emergency surgical procedure performed to treat acute compartment syndrome. Compartment syndrome occurs when increased pressure within a confined fascial compartment compromises the circulation and function of the tissues within that space, potentially leading to muscle and nerve necrosis. The goal of the procedure is to relieve this pressure by decompressing the affected compartment(s). To achieve this, the surgeon must make an incision through all the layers that are confining the swollen muscle. This involves making a long incision through the skin, followed by the underlying subcutaneous tissue and the superficial fascia. The most critical step is then to incise the tough, inelastic deep fascia that encases the muscle compartment. This final incision allows the swollen muscle to bulge out, immediately relieving the intra compartmental pressure and restoring blood flow. Merely incising the skin and subcutaneous layers would be insufficient to decompress the muscle compartment, which is the primary goal of the procedure.

Question 186. Which of the following statements about Crohn’s disease is not true?

A. Rectum is not involved

B. Continuous lesion visualized in endoscopy

C. Non-caseating granulomas

D. Cobblestone appearance

Correct answer: B

Crohn's disease is a type of inflammatory bowel disease that can affect any part of the gastrointestinal tract from the mouth to the anus. One of its hallmark features is the discontinuous nature of the inflammation, which is described as skip lesions. This means there are areas of active inflammation separated by segments of normal-appearing mucosa. Therefore, the statement that a continuous lesion is visualized on endoscopy is not true and is, in fact, the characteristic pattern of ulcerative colitis, where inflammation typically starts in the

rectum and extends proximally in a continuous and circumferential manner. In Crohn's disease, the rectum is often spared (A). Histological examination frequently reveals non-caseating granulomas (C), another hallmark of the disease. The combination of deep linear ulcers and transmural inflammation with submucosal edema creates a nodular appearance of the mucosa on endoscopy or barium studies, which is described as a cobblestone appearance (D).

Question 187. What is the most appropriate investigation for diagnosing carcinoma of the pancreatic head?

A. Guided biopsy

B. ERCP (Endoscopic Retrograde Cholangiopancreatography)

C. Transduodenal/transperitoneal sampling

D. EUS (Endoscopic Ultrasound)

Correct answer: D

For the diagnosis and staging of pancreatic cancer, particularly tumors in the head of the pancreas, Endoscopic Ultrasound (EUS) is considered the most sensitive and accurate imaging modality. EUS involves passing an endoscope with a high-frequency ultrasound transducer at its tip into the stomach and duodenum. This allows for high-resolution imaging of the pancreas from a very close proximity, without interference from bowel gas. EUS is superior to CT and MRI for detecting small tumors (<2 cm), assessing the depth of tumor invasion, and evaluating

Question 188. In congenital hypertrophic pyloric stenosis, which method best demonstrates the abdominal mass?

A. In palpation over the epigastrium

B. In left hypochondriac

C. Right iliac fossa

D. During feeding

Correct answer: A

In congenital hypertrophic pyloric stenosis (CHPS), the classical clinical finding is a palpable “olive-shaped” mass. This mass represents the hypertrophied pylorus.The mass is best felt in the epigastric region, slightly to the right of the midline. It is typically palpated by gently examining the upper abdomen when the infant is calm and relaxed. Sometimes, it is easier to feel after the baby has vomited, when the stomach is empty.Although the pyloric mass lies anatomically toward the right side, it is most accurately described as being palpable in the epigastrium, not the left hypochondrium or right iliac fossa. Feeding may make the pyloric peristaltic waves more visible, but palpation over the epigastrium remains the best method to demonstrate the mass.Therefore, the correct answer is (A) In palpation over the epigastrium.

Question 189. Determine the Glasgow Coma Scale (GCS) score for a 5-year-old head-injury patient who is confused, opens eyes to pain, and localizes pain.

A. 6

B. 11

C. 12

D. 7

Correct answer: B

The Glasgow Coma Scale (GCS) is a neurological scale used to assess a person's level of consciousness after a brain injury. It is scored out of 15 and has three components : Eye Opening, Verbal Response, and Motor Response.1. Eye Opening (E) : The patient opens their eyes in response to pain. This corresponds to a score of 2. (Spontaneous=4, To speech=3, To pain=2, None=1).2. Verbal Response (V) : The patient is confused. This means they are able to speak in sentences but are disoriented. This corresponds to a score of 4. (Oriented=5, Confused=4, Inappropriate words=3, Incomprehensible sounds=2, None=1).3. Motor Response (M) : The patient localizes pain. This means they make a purposeful movement towards a painful stimulus. This corresponds to a score of 5. (Obeys commands=6, Localizes pain=5, Withdraws from pain=4, Flexion to pain=3, Extension to pain=2, None=1).The total GCS score is the sum of the scores from the three components :Total GCS = E + V + M = 2 + 4 + 5 = 11.

Question 190. The RET proto-oncogene is linked to the development of which condition?

A. Medullary carcinoma thyroid

B. Astrocytoma

C. Paraganglioma

D. Hurthle cell tumor thyroid

Correct answer: A

The RET proto-oncogene encodes a receptor tyrosine kinase that is crucial for the normal development of several cell types, including neuroendocrine cells. Germline activating mutations in the RET proto-oncogene are the underlying genetic cause of the Multiple Endocrine Neoplasia type 2 (MEN 2) syndromes, which include MEN 2A, MEN 2B, and Familial Medullary Thyroid Carcinoma (FMTC). The hallmark and most common feature of all these syndromes is the development of Medullary Thyroid Carcinoma (MTC), a cancer of the parafollicular C-cells of the thyroid. Nearly 100% of individuals with a germline RET mutation will develop MTC. Somatic (non-inherited)

Question 191. In the Maastricht classification system for donation after cardiac death (DCD), which condition corresponds to Category III?

A. Awaiting cardiac arrest

B. Brought in dead

C. Unsuccessful resuscitation

D. Cardiac arrest after brain-stem death

Correct answer: A

The Maastricht classification categorizes donors after circulatory (cardiac) death (DCD) based on the circumstances of death.The categories are:1. Category I – Brought in dead

Question 192. A -year-old child presents with shock, and imaging reveals ascites, bowel wall thickening, and poor enhancement of a strangulated bowel segment confirmed as gangrenous during surgery. Which statement regarding intestinal anastomosis is correct?

A. It should be performed in continuous layers to save time

B. It should be performed using catgut

C. It should be done using single-layer seromuscular Lembert sutures

D. It should be done in a single layer including the submucosa

Correct answer: C

In cases of gangrenous bowel following strangulation, especially in a child who has presented with shock, the bowel is edematous and inflamed. In such situations, a single-layer seromuscular (extramucosal) Lembert anastomosis is preferred in many surgical teachings.This technique:1. Avoids penetrating the mucosa2. Reduces the risk of contamination3. Preserves blood supply4. Causes less tissue trauma5. Is quicker and technically safer in compromised bowelThe Lembert sutures invert the bowel edges and approximate the serosa, promoting good healing due to the strong serosal adhesion response.

Question 193. Which of the following graft materials is considered the most suitable choice for a femoropopliteal bypass procedure?

A. Dacron

B. Reversed saphenous vein

C. PTFE (Polytetrafluoroethylene)

D. None

Correct answer: B

For a femoropopliteal bypass procedure, the reversed great saphenous vein is considered the best and most suitable graft material, especially for below-knee bypass.Autologous vein grafts have several advantages:1. Superior long-term patency rates2. Better resistance to infection3. Improved limb salvage outcomes4. Better compliance matching with native arteriesIn the reversed saphenous vein technique, the vein is harvested and reversed so that the venous valves do not obstruct arterial flow.Synthetic grafts such as Dacron and PTFE (Polytetrafluoroethylene) are alternatives when the saphenous vein is unavailable. However, they have lower long-term patency rates, particularly in below-knee bypasses, and carry a higher risk of infection compared to autologous vein grafts.Therefore, whenever available and suitable, the reversed saphenous vein is the graft of choice for femoropopliteal bypass.Hence, the correct answer is (B) Reversed saphenous vein.

Question 194. Which fontanelle is the last to close?

A. Anterolateral (sphenoidal)

B. Anterior (frontal)

C. Posterolateral (mastoid)

D. Posterior (occipital)

Correct answer: B

Fontanelles are the soft, membranous gaps between the cranial bones in an infant's skull, which allow for the growth of the brain and the molding of the head during birth. There are six fontanelles at birth. The posterior fontanelle is triangular and typically closes early, by about 2 to 3 months of age. The anterolateral (sphenoidal) fontanelles on the sides of the skull usually close by about 6 months of age. The posterolateral (mastoid) fontanelles close later, between 6 and 18 months. The anterior fontanelle is the largest, diamond-shaped fontanelle, commonly known as the soft spot. It is the last one to close, with the process of ossification typically being completed between 18 and 24 months of age. Its persistence beyond this age may indicate an underlying medical condition. Because it remains open for the longest period, the anterior fontanelle is a crucial landmark for clinical assessment in infants.

Question 195. Which vaccine is not included under Mission Indradhanush?

A. Tuberculosis

B. Measles

C. Japanese Encephalitis

D. Diphtheria

Correct answer: C

Mission Indradhanush is a flagship immunization program of the Government of India, launched in 2014. Its goal is to rapidly increase full immunization coverage for children up to two years of age and pregnant women. The program initially focused on strengthening the delivery of the vaccines included in the Universal Immunization Programme (UIP). The original seven vaccines targeted by Mission Indradhanush (representing the seven colors of the rainbow, Indradhanush) were for tuberculosis (BCG), poliomyelitis (OPV), hepatitis B, diphtheria, pertussis, and tetanus (Pentavalent vaccine), and measles (MR vaccine). Subsequently, the program has been expanded to include other vaccines like the rotavirus vaccine, pneumococcal conjugate vaccine (PCV), and others. However, the Japanese Encephalitis (JE) vaccine is not part of the core nationwide UIP package. It is sub-national and is administered only in specific

Question 196. Which of the following is the most common cause of neonatal blindness?

A. Neisseria gonorrhoeae

B. Chlamydia trachomatis

C. Klebsiella

D. Enterobacter

Correct answer: A

Neonatal blindness most commonly results from ophthalmia neonatorum, a severe conjunctival infection occurring within the first month of life. Among infectious causes, Neisseria gonorrhoeae is the most dangerous and classically associated with rapid progression to corneal ulceration, perforation, and permanent blindness if not treated promptly.Gonococcal conjunctivitis typically presents within 2–5 days after birth with profuse purulent discharge, eyelid edema, and conjunctival redness. The organism can invade an intact corneal epithelium, making it particularly aggressive. Without immediate systemic antibiotic therapy (usually intravenous or intramuscular ceftriaxone), serious ocular damage may occur.

Question 197. When can acute respiratory distress be diagnosed in a child?

A. Within 7 days of a known clinical event

B. Respiratory failure of unknown cause

C. Due to left ventricular dysfunction

D. All of the above

Correct answer: A

Acute Respiratory Distress Syndrome (ARDS) in children is diagnosed based on established criteria (such as the Berlin definition and pediatric ARDS guidelines).One of the key diagnostic criteria is that respiratory symptoms must develop within 7 days of a known clinical insult (such as sepsis, pneumonia, trauma, aspiration, or pancreatitis) or worsening respiratory symptoms.Other essential features include:1. Acute onset2. Bilateral opacities on chest imaging3. Respiratory failure not fully explained by cardiac failure or fluid overload4. Impaired oxygenation based on oxygenation indicesOption (B) is incorrect because ARDS requires an identifiable clinical insult; it is not classified simply as respiratory failure of unknown cause.Option (C) is incorrect because respiratory distress due to left ventricular dysfunction is cardiogenic pulmonary edema, which is excluded from ARDS diagnosis.Therefore, the correct answer is (A) Within 7 days of a known clinical event.

Question 198. A -year-old child weighing kg presents with acute gastroenteritis, along with sunken, dry eyes and a skin pinch that returns very slowly (more than seconds). What is the appropriate management?

A. RL infusion 120 ml in the first hour followed by 360 ml in the next 5 hours

B. RL infusion 180 ml in the first hour followed by 420 ml in the next 5 hours

C. RL infusion 180 ml in the first hour followed by 480 ml in the next 5 hours

D. RL infusion 240 ml in the first hour followed by 360 ml in the next 5 hours

Correct answer: B

The child shows signs of severe dehydration (sunken eyes and skin pinch returning very slowly >2 seconds). According to WHO guidelines, severe dehydration in children requires Plan C

management with intravenous fluids, preferably Ringer’s lactate (RL).For children below 12 months, the recommended regimen is:100 mL/kg total IV fluid30 mL/kg in the first 1 hour70 mL/kg over the next 5 hoursFor this 6 kg child:Total fluid = 100 × 6 = 600 mLFirst hour = 30 × 6 = 180 mLNext 5 hours = 70 × 6 = 420 mLThis matches option (B).After initial resuscitation, reassessment is essential. Once the child can drink, oral rehydration solution (ORS) should be started. Monitoring urine output, pulse, and hydration status is critical to ensure adequate correction of dehydration.Therefore, the correct management is (B) RL infusion 180 ml in the first hour followed by 420 ml in the next 5 hours.

Question 199. A newborn with a heart rate below 0 beats per minute can be resuscitated using all of the following methods except which one?

A. Chest compression

B. Oxygen therapy

C. Tactile stimulation

D. Slapping the back

Correct answer: A

No explanation is available for this recall question yet.

Question 200. As an intern in the casualty, which of the following fracture patients should you prioritize for immediate notification of the orthopedic postgraduate?

A. Patient's finger is blackening

B. Patient can't extend his arm

C. A 10 cm abrasion

D. Intra-articular fracture of the elbow joint

Correct answer: A

In an emergency setting, the principle of triage dictates that patients with life- or limb-threatening conditions must be prioritized. A patient with a fracture whose finger is blackening is showing a sign of severe vascular compromise or impending gangrene. This is an orthopedic emergency. The blackening indicates a lack of blood supply (ischemia) to the digit, which could be due to an arterial injury, thrombosis, or severe swelling causing compartment syndrome associated with the fracture. If blood flow is not restored urgently, the tissue will die, leading to the need for amputation. This is a limb-threatening situation that requires immediate assessment and intervention by the orthopedic team. Inability to extend the arm (B) suggests a nerve or tendon injury, a 10 cm abrasion (C) is a soft tissue injury, and an intra-articular fracture (D) requires attention, but none of these are as immediately limb-threatening as acute vascular compromise.

Question 201. Which immune cells are predominantly found in the synovial fluid of patients with rheumatoid arthritis?

A. B cells

B. T cells

C. Macrophages

D. Dendritic cells

Correct answer: B

Rheumatoid arthritis (RA) is a chronic, systemic autoimmune disease characterized by inflammation of the synovial joints. The synovial fluid in an actively inflamed RA joint is typically inflammatory, with a high white blood cell count (usually 5,000 to 50,000 cells/μL). The predominant cell type in this inflammatory infiltrate is the neutrophil, which can make up >75% of the cells. However, among the mononuclear cells that drive the chronic

Question 202. Which muscles are involved in De Quervain’s tenosynovitis?

A. Abductor pollicis longus and extensor pollicis brevis

B. Adductor pollicis longus and extensor pollicis brevis

C. Abductor pollicis longus and Flexor pollicis brevis

D. Adductor pollicis longus and Flexor pollicis brevis

Correct answer: A

De Quervain's tenosynovitis is a common and painful condition affecting the wrist and thumb. It is a stenosing tenosynovitis, meaning it involves inflammation and thickening of the synovial sheath that surrounds the tendons at the base of the thumb. Specifically, it affects the two tendons that run through the first dorsal (extensor) compartment of the wrist. These two tendons are the abductor pollicis longus (APL) and the extensor pollicis brevis

Question 203. What is meant by Perilunate dislocation?

A. Lower radius, scaphoid, and lunate and capitate all in the same plane

B. Lower radius, scaphoid, and capitate in alignment, lunate alone out of the plane

C. Lower radius, scaphoid, and lunate in alignment, capitate alone is out of the plane

D. Both lunate and capitate are out of the plane

Correct answer: C

Perilunate dislocation is a severe and unstable wrist injury that results from high-energy trauma, typically a fall onto an outstretched, hyperextended hand. The injury involves the disruption of the ligaments that connect the carpal bones. The key to understanding this injury is the relationship between the radius, lunate, and capitate on a lateral wrist radiograph. Normally, these three bones are co-linear, forming a straight line. In a perilunate dislocation, the ligaments holding the capitate to the lunate are torn, and the capitate (along with the rest of the carpus) dislocates dorsally relative to the lunate. The lunate, however, maintains its normal alignment with the distal radius. Therefore, the lower radius and lunate remain in alignment, while the capitate alone is out of the plane (dislocated dorsally). If the injury progresses, the lunate can also dislocate, rotating volarly into the carpal tunnel, which is then

called a lunate dislocation.

Question 204. Fallen fragment sign is seen in:

A. Simple bone cyst

B. Osteosarcoma

C. Adamantinoma

D. Aneurysmal bone cyst

Correct answer: A

The fallen fragment sign is a pathognomonic radiological sign that is highly specific for a Simple Bone Cyst, also known as a Unicameral Bone Cyst (UBC). A UBC is a benign, fluid-filled lesion that typically occurs in the metaphysis of long bones in children and adolescents. The cyst can thin and expand the overlying bone cortex, making it susceptible to a pathological fracture. When a fracture occurs, a fragment of the weakened cortical bone can break off and fall into the fluid-filled cavity of the cyst. On a radiograph, this piece of bone is seen lying in

Question 205. Tom Smith’s septic arthritis refers to which condition?

A. Acute Gonococcal arthritis

B. Smallpox arthritis

C. Septic arthritis of infancy

D. Chronic pyogenic arthritis

Correct answer: C

Tom Smith's arthritis is an eponym for a particularly destructive form of septic arthritis of the hip joint that occurs in infancy. It was described by the surgeon Thomas Smith in 1874. The condition is characterized by a rapid and often complete destruction of the femoral head. In infants, the blood supply to the femoral head epiphysis passes through the joint capsule. An infection in the hip joint can cause a septic effusion that rapidly increases the intra-articular pressure. This pressure can compress the blood vessels, leading to avascular necrosis (death) of the femoral head. The infection can also directly destroy the cartilage. Because the femoral head in infants is largely cartilaginous, it can be completely destroyed by this process, leading to a pathological dislocation of the hip and severe long-term disability. This condition is an absolute surgical emergency requiring immediate drainage of the joint.

Question 206. Which nerve is most frequently compressed during pregnancy and the puerperium?

A. Radial nerve

B. Median nerve

C. Femoral nerve

D. Facial nerve

Correct answer: B

During pregnancy, hormonal changes and significant fluid retention are common. This generalized edema can lead to compression of peripheral nerves as they pass through anatomical tunnels or canals. The most common peripheral nerve entrapment syndrome in pregnancy is carpal tunnel syndrome, which is caused by the compression of the median nerve as it passes through the carpal tunnel at the wrist. The increased fluid volume during pregnancy increases the pressure within this confined space, leading to symptoms of pain, numbness, and tingling in the distribution of the median nerve (the thumb, index, middle, and radial half of the ring finger). Symptoms are often worse at night and can be bilateral. While other nerve palsies can occur (e.g., from positioning during labor), carpal tunnel syndrome due to median nerve compression is by far the most frequent peripheral neuropathy associated with pregnancy.

Question 207. Acute fatty liver of pregnancy most commonly occurs during which stage of pregnancy?

A. 3rd trimester

B. 1st trimester

C. Immediate postpartum

D. Intrapartum

Correct answer: A

Acute Fatty Liver of Pregnancy (AFLP) is a rare but life-threatening obstetric emergency characterized by microvesicular fatty infiltration of hepatocytes, leading to acute liver failure. The onset of the disease is almost exclusively in the third trimester of pregnancy, with the majority of cases presenting between 30 and 38 weeks of gestation. It can also occur in the immediate postpartum period, but the classic presentation is late in pregnancy. The symptoms are often non-specific initially, including nausea, vomiting, abdominal pain, and malaise, but can rapidly progress to jaundice, hypoglycemia, coagulopathy, encephalopathy, and multi-organ failure. The exact cause is unknown but is linked to a genetic defect in fetal fatty acid oxidation.

Question 208. At which stage is fetoplacental circulation established?

A. 15 to 17 days

B. 20 to 22 days

C. 7 days

D. 25 to 26 days

Correct answer: B

The development of the circulatory system between the fetus and the placenta is a critical early event in embryogenesis. The process begins with the formation of blood islands in the mesoderm of the yolk sac, connecting stalk, and chorion around day 17. These blood islands coalesce to form primitive blood vessels. By the end of the third week of gestation, these fetal vessels have developed and connected with the vessels forming in the chorionic villi of the

placenta. At the same time, the primitive heart tube has formed and begins to beat and pump blood around day 21 or 22. This establishes a rudimentary but functional fetoplacental circulation, allowing for the exchange of gases, nutrients, and waste products between the maternal and fetal bloodstreams within the placenta. Therefore, the period of 20 to 22 days post-conception is the correct timeframe for the initial establishment of this vital circulatory loop.

Question 209. What is the Recommended Dietary Allowance (RDA) of iodine during lactation, in micrograms?

A. 150 µg

B. 220 µg

C. 100 µg

D. 250 µg

Correct answer: D

Iodine is an essential micronutrient required for the synthesis of thyroid hormones, which are critical for regulating metabolism and for the normal growth and development of the brain and nervous system. The requirement for iodine increases significantly during pregnancy and lactation to meet the needs of both the mother and the developing fetus or newborn. The Recommended Dietary Allowance (RDA) for iodine in non-pregnant adult women is 150 µg/day. During pregnancy, this increases to 220 µg/day to support fetal neurodevelopment. The requirement is highest during lactation, as

Question 210. Which of the following is not a cause of secondary postpartum hemorrhage?

A. Placenta previa

B. Retained bits of placenta

C. Endometritis

D. Polyp

Correct answer: A

Postpartum hemorrhage (PPH) is classified as primary or secondary. Primary PPH occurs within the first 24 hours after delivery. Secondary PPH is defined as excessive vaginal bleeding that occurs between 24 hours and 12 weeks postpartum. The most common cause of secondary PPH is subinvolution of the placental site, which is often associated with retained placental fragments or membranes. The second most common cause is uterine infection, such as endometritis. Other less common causes include the breakdown of uterine incision scars, placental site polyps, or underlying congenital bleeding disorders. Placenta previa, a condition where the placenta implants over or near the cervical os, is a major cause of antepartum hemorrhage (bleeding before delivery) and is a significant risk factor for primary PPH due to poor uterine contractility at the lower segment after placental separation. It is not a direct

cause of secondary PPH.

Question 211. During which gestational period is the quadruple test optimally performed?

A. 8-12 weeks

B. 11-15 weeks

C. 15-20 weeks

D. 18-22 weeks

Correct answer: C

The quadruple screen, or quad test, is a maternal blood screening test performed during

Question 212. After performing the McRoberts maneuver in shoulder dystocia, what is the next step in management?

A. Sharp flexion of hip joints towards the abdomen

B. Suprapubic pressure

C. 90-degree rotation of the posterior shoulder

D. Emergency c-section

Correct answer: B

Shoulder dystocia is an obstetric emergency where the anterior shoulder of the fetus becomes impacted behind the mother's pubic symphysis after the delivery of the head. A sequence of maneuvers is used to resolve it. The first maneuver is the McRoberts maneuver (A), which involves hyperflexion of the mother's hips onto her abdomen. This flattens the sacral promontory and rotates the pubic symphysis, often creating enough space for the shoulder to deliver. If this maneuver alone is unsuccessful, the next step is to apply suprapubic pressure. An assistant applies firm, downward pressure on the maternal abdomen just above the pubic bone, in an attempt to adduct the fetal shoulder and push it under the symphysis. The McRoberts maneuver and suprapubic pressure are often performed simultaneously. Internal rotational maneuvers, such as the Rubin or Wood's screw maneuver (C), are performed next if the initial steps fail. An emergency C-section (D) is not

Question 213. Which drug is administered to enhance fetal lung maturity?

A. Dexamethasone

B. Folic acid

C. Beclomethasone

D. None

Correct answer: A

Antenatal corticosteroids are a critical intervention administered to pregnant women who are at risk of preterm delivery (typically between 24 and 34 weeks of gestation). The purpose of this therapy is to accelerate the maturation of the fetal lungs and reduce the risk and severity of

neonatal respiratory distress syndrome (RDS), which is caused by a deficiency of surfactant in the premature lungs. The corticosteroids cross the placenta and stimulate the fetal lung pneumocytes to produce and release surfactant. The two most commonly used and well-studied corticosteroids for this purpose are dexamethasone and betamethasone. A standard course consists of either two doses of betamethasone given 24 hours apart or four doses of dexamethasone given 12 hours apart. Beclomethasone is an inhaled corticosteroid used for asthma and is not used for this indication. Folic acid is a vitamin used to prevent neural tube defects.

Question 214. Peripartum cardiomyopathy usually develops within what time period?

A. Within 7 days

B. Within 6 weeks

C. Within 24 months

D. Within 5 months

Correct answer: D

Peripartum cardiomyopathy (PPCM) is a rare but potentially life-threatening form of idiopathic cardiomyopathy defined as the development of heart failure in women towards the end of pregnancy or in the months following delivery, without any other identifiable cause. The standard diagnostic criteria for PPCM require the onset of symptoms of heart failure to occur in the last month of pregnancy or within 5 months

Question 215. Which of the following situations is not classified as a high-risk pregnancy?

A. Previous history of manual removal of placenta

B. Anemia

C. Diabetes

D. Obesity

Correct answer: A

A high-risk pregnancy is one in which the mother or the fetus has an increased risk of morbidity or mortality before, during, or after delivery. Conditions like pre-existing or gestational diabetes (C), severe anemia (B), and significant maternal obesity (D) are all well-established risk factors that classify a pregnancy as high-risk. These conditions can lead to numerous complications, including pre-eclampsia, fetal growth abnormalities, preterm birth, and delivery complications. In contrast, a previous history of manual removal of the placenta is a risk factor for a retained placenta in a subsequent pregnancy, but it is not typically considered a factor that categorizes the entire pregnancy as high-risk from the outset, in the same way that a major medical condition like diabetes does. While it requires vigilance during the third stage of labor, it does not have the same level of systemic impact on the antepartum course as the other conditions listed.

Question 216. Which of the following is not used in the management of preeclampsia?

A. Methyldopa

B. Atenolol

C. Labetalol

D. Hydralazine

Correct answer: B

The management of hypertension in pre-eclampsia involves the use of antihypertensive agents that are safe and effective during pregnancy. The commonly used and recommended first-line oral agents include the central alpha-2 agonist methyldopa (A) and the combined alpha- and beta-blocker labetalol (C). The calcium channel blocker nifedipine is also a first-line option. For hypertensive emergencies, intravenous labetalol and the direct vasodilator hydralazine (D) are used. However, atenolol (B), which is a beta-1 selective blocker, is generally avoided during pregnancy. Its use, particularly in the second and third trimesters, has been associated with an increased risk of fetal growth restriction (intrauterine growth restriction - IUGR) and low birth weight. Because of this potential adverse effect on fetal growth, other beta-blockers like labetalol are preferred, and atenolol is not a recommended choice for treating hypertension in pre-eclampsia.

Question 217. The surgical procedure known as fimbrectomy corresponds to which sterilization technique?

A. Uchida method

B. Irving method

C. Madlener technique

D. Kroener method

Correct answer: D

Fimbrectomy refers to a method of female sterilization in which the fimbrial end of the fallopian tube is surgically removed. This procedure is specifically known as the Kroener method. In this technique, the distal (fimbrial) portion of the fallopian tube is excised, thereby preventing the ovum from entering the tube and eliminating the possibility of fertilization. Since the fimbriae play a crucial role in capturing the ovulated egg from the ovary and guiding it

Question 218. What is the definition of superfecundation?

A. Fertilization of two or more ova in one intercourse

B. Fertilization of two or more ova in different intercourses in the same menstrual cycle

C. Fertilization of ova and then its division

D. Fertilization of second ovum, first being implanted

Correct answer: B

Superfecundation is the fertilization of two or more ova released during the same ovulatory

cycle by sperm from separate acts of sexual intercourse. This can result in dizygotic (fraternal) twins who have different biological fathers, a phenomenon known as heteropaternal superfecundation. This occurs if a woman has intercourse with two different men within a short time frame around her ovulation. It is a rare event in humans but is well-documented. This is different from the fertilization of two ova from a single act of intercourse (A), which is the standard way dizygotic twins are conceived from one father. It is also distinct from superfetation, which is the fertilization and subsequent implantation of a second ovum when a pregnancy is already established, an extremely rare occurrence in humans.

Question 219. At what stage of development does the fetal heart begin to contract?

A. 10-12 days

B. 10-12 weeks

C. 3-5 weeks

D. 3-5 months

Correct answer: C

The development of the cardiovascular system is one of the earliest and most critical events in embryogenesis. The primitive heart begins to form as a simple tube from the fusion of cardiogenic cords in the mesoderm during the third week of gestation. This heart tube begins to beat and pump blood in a coordinated, peristaltic fashion at approximately 21 to 22 days post-conception. This corresponds to the beginning of the fourth week of gestation, or the 5th week of pregnancy as dated from the last menstrual period. Therefore, the fetal heart starts its rhythmic contractions very early, within the 3-5 week gestational window. By the end of the fourth week, a rudimentary but functional circulation is established. The heartbeat can typically be detected by transvaginal ultrasound around 5.5 to 6 weeks of gestation.

Question 220. What is the preferred anesthetic technique for performing a cesarean section in a patient with severe pre-eclampsia?

A. Spinal

B. GA (General Anesthesia)

C. Epidural

D. Spinal + Epidural

Correct answer: A

Spinal anesthesia is the preferred anesthetic technique for performing a cesarean section in a patient with severe pre-eclampsia because it provides rapid, reliable, and dense anesthesia while avoiding the risks associated with general anesthesia. In severe pre-eclampsia, patients often have hypertension, airway edema, and an increased risk of difficult intubation. General anesthesia can cause a marked rise in blood pressure during laryngoscopy and intubation, which may precipitate complications such as intracranial hemorrhage or cardiac failure.

Question 221. Which of the following statements about the placenta is correct?

A. Placental artery provides nutrients through the umbilical cord to the baby

B. The placenta is attached to the umbilical cord that has Wharton's jelly

C. Placenta has 2 veins and 1 artery

D. Estrogen is secreted by the placenta

Correct answer: A

No explanation is available for this recall question yet.

Question 222. In a patient with uterine prolapse who has been fitted with a vaginal ring pessary, how can you confirm that the pessary is correctly positioned?

A. If not expelled after increased abdominal pressure

B. If bleeding does not occur

C. If the patient feels discomfort

D. None

Correct answer: A

A vaginal ring pessary is a commonly used conservative treatment for uterine prolapse. After insertion, proper placement must be assessed to ensure it provides adequate support to the uterus and vaginal walls. One of the simplest and most practical ways to confirm correct positioning is to ask the patient to perform activities that increase intra-abdominal pressure, such as coughing, straining, or bearing down (Valsalva maneuver).If the pessary remains in place and is not expelled during these actions, it indicates that it fits appropriately and is providing sufficient support. A correctly fitted pessary should also be comfortable, allowing the patient to walk, sit, and void urine without difficulty.Bleeding or discomfort are not reliable indicators of proper placement. Therefore, the best method to determine correct positioning is ensuring the pessary is retained during increased abdominal pressure.

Question 223. For which condition is hormone therapy (HT) recommended in postmenopausal women?

A. Hot flushes

B. Ca breast

C. Endometriosis

D. Uterine bleeding

Correct answer: A

Hormone therapy (HT) is primarily indicated for the management of menopausal symptoms, especially vasomotor symptoms such as hot flushes and night sweats. These symptoms occur due to decreased estrogen levels during menopause, which affect the body’s thermoregulatory center in the hypothalamus. HT helps relieve these symptoms by replacing the deficient estrogen, thereby improving quality of life and sleep patterns in symptomatic women.Hormone therapy is not indicated in women with breast cancer, as estrogen may stimulate

hormone-sensitive tumor growth. It is also not routinely used to treat endometriosis in menopausal women unless under specific specialist guidance. Abnormal uterine bleeding requires proper evaluation to determine the underlying cause and is not itself an indication for HT.Therefore, the most appropriate and common indication for hormone therapy in menopausal women is the treatment of bothersome hot flushes.

Question 224. In which of the following conditions should dilatation and curettage (D&C) be avoided?

A. Pelvic inflammatory disease (PID)

B. Endometriosis

C. Ectopic pregnancy

D. None

Correct answer: A

Dilatation and curettage (D&C) is a gynecological procedure in which the cervix is dilated and the endometrial lining of the uterus is scraped or suctioned. It is commonly performed for diagnostic purposes, such as evaluating abnormal uterine bleeding, or for therapeutic reasons, including incomplete abortion.However, D&C is contraindicated in patients with active pelvic inflammatory disease (PID). PID is an infection of the upper genital

Question 225. Paget's disease is associated with which other cancer?

A. Vulva

B. Vagina

C. Cervix

D. Uterus

Correct answer: A

Paget’s disease in gynecology usually refers to extramammary Paget’s disease, a rare intraepithelial adenocarcinoma that most commonly affects the vulvar region. It is strongly associated with malignancy of the vulva and may either arise primarily in the vulvar skin or be associated with an underlying adenocarcinoma of apocrine gland origin.Clinically, vulvar Paget’s disease presents with chronic itching, redness, eczematous changes, or ulcerated lesions of the vulva. Because its appearance can mimic dermatitis or eczema, diagnosis is confirmed by biopsy showing characteristic Paget cells within the epidermis.Although Paget’s disease is classically associated with breast carcinoma in the mammary form, in the genital tract it is most commonly linked with vulvar malignancy. It is not typically associated with cancers of the vagina, cervix, or uterus.Therefore, Paget’s disease in gynecology is most commonly associated with carcinoma of the vulva.

Question 226. What are the contraceptive effects of progesterone-only pills?

A. Completely suppress ovulation

B. Thin the lining of the uterus

C. Thicken cervical mucus

D. All of the above

Correct answer: D

Progesterone-only pills (also known as mini-pills) prevent pregnancy through multiple mechanisms. First, they can suppress ovulation. Although ovulation suppression is not as consistent as with combined oral contraceptive pills, many users experience inhibition of follicular development and ovulation, especially with continuous and timely use.

Question 227. Congenital adrenal hyperplasia (CAH) is most commonly associated with which type of pseudohermaphroditism?

A. Male pseudohermaphroditism

B. Female pseudohermaphroditism

C. True pseudohermaphroditism

D. Sequential pseudohermaphroditism

Correct answer: B

Congenital adrenal hyperplasia (CAH) is a group of inherited disorders caused by enzyme deficiencies in cortisol synthesis, most commonly 21-hydroxylase deficiency. This enzyme defect leads to decreased cortisol production and a compensatory increase in adrenocorticotropic hormone (ACTH), resulting in adrenal hyperplasia and excess androgen production.In genetic females (46,XX), the excess androgens cause varying degrees of virilization of the external genitalia, such as clitoromegaly and labioscrotal fusion, while the internal reproductive organs (uterus, fallopian tubes, and ovaries) remain female. This condition is therefore termed female pseudohermaphroditism, meaning the chromosomal and gonadal sex is female, but the external genitalia are masculinized.Male pseudohermaphroditism involves undervirilization in 46,XY individuals and is not typically caused by CAH. The other options are not standard classifications.

Question 228. Which ligament is primarily responsible for maintaining the anteverted position of the uterus?

A. Cardinal ligament

B. Uterosacral ligament

C. Pubocervical ligament

D. Round ligament

Correct answer: D

The uterus normally lies in an anteverted and anteflexed position, meaning it tilts forward over the urinary bladder. The maintenance of this forward tilt (anteversion) is mainly supported by the round ligaments of the uterus.The round ligaments arise from the uterine horns, pass laterally within the broad ligament, traverse the inguinal canal, and insert into the labia majora.

Their forward pull helps keep the uterus tilted anteriorly.The cardinal (transverse cervical) ligaments provide lateral support to the cervix and help prevent uterine prolapse. The uterosacral ligaments support the uterus posteriorly and maintain its position within the pelvis. The pubocervical ligaments provide anterior support to the cervix and bladder.Although these ligaments contribute to overall uterine support, the round ligaments specifically help maintain anteversion. Therefore, the ligament responsible for maintaining the anteverted position of the uterus is the round ligament.

Question 229. Chronic or long-standing pelvic inflammatory disease can result in which of the following complications?

A. Pyometra

B. Uterine polyps

C. Pseudopregnancy

D. Cystic endometrial hyperplasia

Correct answer: A

Long-standing pelvic inflammation, particularly chronic pelvic inflammatory disease (PID), can cause persistent infection and damage to the upper genital tract. Over time, chronic inflammation may lead to scarring, obstruction

Question 230. Which chromosomal pattern is most commonly associated with true hermaphroditism?

A. 45 XO streak gonads

B. 46 XX Ovotestis

C. 47 XXY+9

D. 47 XX

Correct answer: B

True hermaphroditism, now more appropriately termed ovotesticular disorder of sex development (DSD), is a rare condition in which an individual has both ovarian and testicular tissue. This may be present as an ovotestis (a single gonad containing both ovarian and testicular tissue) or as one ovary and one testis.The most common karyotype seen in individuals with ovotesticular DSD is 46,XX. Despite having a typical female chromosomal pattern, these individuals develop both types of gonadal tissue. The presence of testicular tissue may be due to translocation of the SRY gene or other genetic variations influencing sex differentiation.Option (A), 45,XO, is associated with Turner syndrome and streak gonads. Option (C), 47,XXY, is associated with Klinefelter syndrome. Option (D), 47,XX, is not a recognized standard karyotype.Therefore, the karyotype most commonly linked with true hermaphroditism is 46,XX with ovotestis formation.

Question 231. What constitutes the Malpigiian layer?

A. Corneum lucidum

B. Corneum spinosum

C. Stratum Spinosum and Stratum Basde

D. Basale granulosum

Correct answer: C

The Malpighian layer, also known as the germinative layer of the epidermis, refers to the actively dividing portion of the epidermis responsible for regeneration of the skin. It is composed of two layers: the stratum basale (basal layer) and the stratum spinosum (prickle cell layer).The stratum basale is the deepest layer of the epidermis. It consists of a single row of cuboidal or columnar cells that continuously undergo mitosis to produce new keratinocytes. These newly formed cells gradually move upward into the stratum spinosum.The stratum spinosum lies just above the basal layer and contains several layers of polygonal cells connected by desmosomes, giving them a spiny appearance under the microscope. These cells provide strength and flexibility to the skin.The stratum granulosum and stratum lucidum are more superficial layers and are not part of the Malpighian layer. Thus, the Malpighian layer consists of the stratum basale and stratum spinosum.

Question 232. Cutis marmorata occurs due to exposure to which factor?

A. Cold temperature

B. Dust

C. Hot temperature

D. Humidity

Correct answer: A

No explanation is available for this recall question yet.

Question 233. Murphy's eye is seen in which of the following?

A. Macintosh laryngoscope

B. Endotracheal tube

C. LMA (Laryngeal Mask Airway)

D. Flexible laryngoscope

Correct answer: B

The Murphy's eye is a specific design feature of most modern endotracheal tubes (ETTs). It is a small, oval-shaped hole located on the side of the ETT, opposite the beveled tip. The primary purpose of the Murphy's eye is to serve as a safety feature that ensures ventilation can continue even if the main opening at the beveled tip of the tube becomes occluded. For example, if the tip of the ETT rests against the tracheal wall or becomes blocked by mucus, respiratory gases can still flow into and out of the lungs through the Murphy's eye. This provides an alternative pathway for air movement and reduces the risk of complete airway obstruction. Laryngoscopes are used for intubation, and an LMA is a supraglottic airway device;

neither has a Murphy's eye.

Question 234. Modified Mallampati grading is used in the assessment of which of the following?

A. Difficult intubation

B. Airway obstruction

C. Death due to aspiration

D. Intubation

Correct answer: A

The Modified Mallampati classification is a simple, non-invasive bedside test used by anesthesiologists and other healthcare providers as part of the preoperative airway assessment. Its purpose is to predict the ease of direct laryngoscopy and tracheal intubation. The

Question 235. Which nerve is assessed to determine the adequacy of anaesthesia?

A. Median Nerve

B. Ulnar Nerve

C. Radial nerve

D. Mandibular nerve

Correct answer: B

This question refers to the monitoring of neuromuscular blockade during general anesthesia. When neuromuscular blocking agents (muscle relaxants) are used, a peripheral nerve stimulator is employed to assess the depth of the block. The stimulator delivers a small electrical current to a peripheral nerve, and the resulting muscle contraction (twitch) is observed or measured. The most common site for this monitoring is the ulnar nerve at the wrist or elbow. Stimulation of the ulnar nerve causes contraction of the adductor pollicis muscle, which results in adduction (movement towards the palm) of the thumb. The response of the adductor pollicis to different patterns of stimulation (e.g., train-of-four) allows the anesthesiologist to precisely titrate the dose of muscle relaxant and to determine when the block has sufficiently worn off for the patient to breathe safely on their own.

Question 236. How do curare-like (Curanium) muscle relaxant drugs exert their effect?

A. Persistently depolarizing at Neuromuscular junction

B. Act competitively on Ach receptors blocking post-synaptically

C. Repetitive stimulation of Ach receptors on the muscle endplate

D. Inhibiting the calcium channel on presynaptic membrane

Correct answer: B

The -curonium and -curium drugs (e.g., rocuronium, vecuronium, atracurium) are

non-depolarizing neuromuscular blocking agents. They are derivatives or analogues of d-tubocurarine, the active component of curare. Their mechanism of action is to act as competitive antagonists at the nicotinic acetylcholine (ACh) receptors on the motor endplate of the neuromuscular junction. By binding to these postsynaptic ACh receptors, they physically block acetylcholine from binding. This prevents the endplate from depolarizing, which in turn prevents the initiation of an action potential in the muscle fiber and results in flaccid muscle

Question 237. During strabismus (squint) surgery, the anesthesiologist notices a sudden fall in the patient's blood pressure to 40 mmHg. What should be the immediate management?

A. Give atropine

B. Increase level of anesthesia

C. Ask the surgeon to stop the surgery

D. Give adrenaline

Correct answer: C

Strabismus surgery can trigger the oculocardiac reflex, a trigemino-vagal reflex that occurs due to traction on the extraocular muscles. This reflex may cause sudden bradycardia, hypotension, arrhythmias, or even cardiac arrest. A sudden fall in blood pressure to 40 mmHg is a serious event and requires immediate intervention. The first and most important step is to stop the surgical stimulus. Asking the surgeon to immediately release traction on the eye muscles often results in rapid resolution of the reflex and stabilization of vital signs. After stopping the stimulus, the anesthesiologist can assess and manage the patient further. If bradycardia persists, atropine may be administered. However, the priority is removal of the triggering factor. Therefore, the best immediate management is to ask the surgeon to stop the surgery.

Question 238. In which type of radiation is the Bragg peak effect most prominent?

A. X ray

B. Proton

C. Neutron

D. Electron

Correct answer: B

The Bragg peak is a characteristic physical phenomenon describing the energy loss of heavy charged particles as they travel through matter. Unlike photons (X-rays) or electrons, which deposit their energy gradually from the surface inwards, a heavy charged particle like a proton travels through tissue and deposits a relatively small amount of energy along its initial path. As the particle slows down, its rate of energy loss increases dramatically, reaching a sharp maximum at a specific depth. This sharp peak in energy deposition is the Bragg peak. Beyond this peak, the energy deposition falls off to almost zero very rapidly. This physical property is exploited in proton beam therapy for cancer. It allows for the delivery of a very high, conformal

dose of radiation precisely to the tumor volume, while sparing the healthy tissues located both in front of and, most importantly, behind the tumor.

Question 239. The salt and pepper appearance of the skull is characteristic of which condition?

A. Hyperparathyroidism

B. Multiple myeloma

C. Hyperthyroidism

D. Pseudo hyperparathyroidism

Correct answer: A

The salt-and-pepper appearance of the skull on a lateral radiograph is a classic sign of bone disease caused by hyperparathyroidism, particularly primary hyperparathyroidism. Excess parathyroid hormone (PTH) leads to increased osteoclastic activity and bone resorption. In the skull, this process results in the loss of trabeculae in the diploic space (the spongy bone between the inner and outer tables of the calvarium). This resorption creates numerous tiny, punctate lucencies (the pepper) interspersed with areas of more normal or slightly sclerotic bone (the salt). This fine, granular pattern of demineralization is highly characteristic. In severe, long-standing cases, it can be associated with other skeletal findings of hyperparathyroidism, such as subperiosteal bone resorption in the hands and the presence of brown tumors. Multiple myeloma typically causes larger, well-defined, punched-out lytic lesions, not a fine granular pattern.

Question 240. Which of the following is not used as an imaging technique for diagnosing uterine anomalies?

A. HSG (Hysterosalpingography)

B. MRI-guided HSG

C. CT-guided HSG

D. USG (Ultrasound)

Correct answer: C

The evaluation of congenital uterine anomalies requires imaging techniques that can clearly delineate both the internal (endometrial cavity) and external (serosal) contour of the uterus. Ultrasound (USG), particularly 3D ultrasound, is an excellent, non-invasive initial tool. Hysterosalpingography (HSG) is a fluoroscopic procedure that uses contrast dye to outline the uterine cavity and fallopian tubes, effectively showing the internal contour but not the external fundal shape. Magnetic Resonance Imaging (MRI) is considered the gold standard as it provides superior soft tissue contrast and multiplanar imaging, allowing for a detailed

Question 241. Which of the following is not correct?

A. MRI needed to assess hemorrhage.

B. GCS assessment helps in prognosis.

C. Some hematomas can be managed conservatively

D. All of the above

Correct answer: A

In acute head injury, the investigation of choice to assess intracranial hemorrhage is a non-contrast CT scan, not MRI. CT scan is rapid, widely available, and highly sensitive for detecting acute bleeding, skull fractures, and mass effect. MRI is more useful for detecting subtle brain injuries such as diffuse axonal injury, small contusions, or subacute and chronic lesions, but it is not the first-line imaging modality in emergency settings.1. Option (B) is correct because the Glasgow Coma Scale (GCS) is an important clinical tool used to assess the severity of head injury and helps predict prognosis.2. Option (C) is also correct, as some small hematomas without significant mass effect or neurological deterioration can be managed conservatively with close monitoring.Therefore, the incorrect statement is that MRI is needed to assess hemorrhage.

Question 242. Which of the following tumors is not typically found in the anterior mediastinum?

A. Thyrroid tumor

B. Thymoma

C. Lymphoma

D. Neurogenic tumor

Correct answer: D

The mediastinum is anatomically divided into anterior, middle, and posterior compartments. The anterior mediastinum commonly contains structures such as the thymus, lymph nodes, fat, and ectopic thyroid tissue. Therefore, tumors typically seen in the anterior mediastinum include:1. Thymoma (arising from the thymus)2. Lymphoma3. Thyroid tumors (especially substernal or retrosternal goiter)These are often remembered as part of the classic “4 Ts” of anterior mediastinal masses: Thymoma, Thyroid tumor, Teratoma, and Terrible” lymphoma.In contrast, neurogenic tumors—such as schwannomas and neurofibromas—arise from nerve sheaths and are most commonly located in the posterior mediastinum, where the sympathetic chain and intercostal nerves are situated.Therefore, neurogenic tumors are not typically found in the anterior mediastinum, making option (D) the correct answer.

Question 243. What is the treatment of choice for radiation in Chordoma?

A. Protons

B. Electrons

C. Gamma radiation

D. 3D-CRT (Three-Dimensional Conformal Radiation Therapy)

Correct answer: A

Chordoma is a rare, slow-growing malignant tumor that arises from remnants of the notochord. It most commonly occurs in the sacrum, clivus, or along the spine. Because chordomas are located near critical structures such as the brainstem, spinal cord, and major nerves, precise radiation delivery is essential.Proton beam therapy is considered the treatment of choice for radiation in chordoma. Proton therapy has a unique physical property known as the Bragg peak, which allows it to deposit the majority of its energy directly within the tumor while minimizing radiation exposure to surrounding healthy tissues. This is especially

Question 244. Which contrast dye is preferred for diagnosing esophageal perforation?

A. Iohexol

B. Barium sulphate

C. Gadolinium

D. Lipiodol

Correct answer: A

In suspected esophageal perforation, a water-soluble contrast agent is used initially to confirm the diagnosis. Iohexol is a non-ionic, water-soluble iodinated contrast medium commonly

Question 245. Which of the following is not classified as a habit disorder?

A. Nail-biting

B. Thumb sucking

C. Temper tantrum

D. Tics

Correct answer: C

Habit disorders are characterized by repetitive, stereotyped behaviors that an individual has difficulty controlling. These are often body-focused repetitive behaviors. Nail-biting (onychophagia), thumb sucking, and hair-pulling (trichotillomania) are classic examples of habit disorders. Tics, which are sudden, rapid, recurrent, nonrhythmic motor movements or vocalizations (as seen in Tourette's syndrome), are also classified under a related category of motor disorders. In contrast, a temper tantrum is not a habit disorder but rather an intense, uncontrolled emotional outburst of anger and frustration. It is a behavioral issue, common in young children as a normal part of development, and is related to an inability to express needs or regulate strong emotions. It is a complex behavioral response to a specific trigger, not a repetitive, automatic habit in the same way as nail-biting or a tic.

Question 246. What is the new term replacing mental retardation as per the American Association of Mental Retardation?

A. Feeble Mindedness

B. Madness

C. Intellectual disability

D. Mentally unstable

Correct answer: C

No explanation is available for this recall question yet.

Question 247. The semen squeeze technique is used to treat which condition?

A. Erectile dysfunction

B. Premature ejaculation

C. Retrograde ejaculation

D. Antegrade ejaculation

Correct answer: B

The squeeze technique, developed by Masters and Johnson, is a behavioral therapy method specifically designed for the treatment of premature ejaculation. The technique involves the man or his partner stimulating the penis until he feels he is about to ejaculate. At that point, the partner firmly squeezes the head of the penis (the glans), where the coronal ridge meets the shaft, for several seconds. This squeeze diminishes the ejaculatory urge. After a brief pause, stimulation is resumed, and the process is repeated several times before ejaculation is finally allowed to occur. The goal of this technique is to help the man gain better awareness of the sensations

Question 248. A man two months post–road traffic accident reports vivid dreams about the event, experiences flashbacks when visiting the crash site, and avoids the location out of fear. What is the most likely diagnosis?

A. Adjustment disorder

B. Post-traumatic stress disorder (PTSD)

C. Anxiety disorder

D. Obsessive-compulsive disorder (OCD)

Correct answer: B

The patient's symptoms are the classic triad for Post-Traumatic Stress Disorder (PTSD), occurring after a significant traumatic event (the RTA). The core symptom clusters of PTSD are all present :Re-experiencing : The patient has recurrent, intrusive memories of the trauma in the form of vivid dreams (nightmares) and dissociative reactions (flashbacks) when triggered by reminders of the event (visiting the site).Avoidance : He actively avoids external reminders (the accident site) that arouse distressing memories of the trauma.Negative alterations in cognition and mood : Although not fully detailed, the fear suggests this component.Marked alterations in arousal and reactivity : While not explicitly mentioned, this is the fourth criterion.The symptoms have persisted for two months, which is longer than the one-month duration required for a PTSD diagnosis. Adjustment disorder involves distress in response to a stressor but does not typically include re-experiencing and flashbacks. Anxiety disorder is a broader category, but the

specific symptom pattern here points directly to PTSD.

Question 249. Minimal brain dysfunction (MBD) syndrome is most commonly associated with which of the following conditions?

A. Dyslexia

B. ADHD [Attention Deficit Hyperactivity Disorder)

C. Mental subnormality

D. Down's syndrome

Correct answer: A

No explanation is available for this recall question yet.

Question 250. All of the following are components of Freud’s theory of dreams except:

A. Displacement

B. Condensation

C. Symbolisation

D. Correlation

Correct answer: D

In his seminal work The Interpretation of Dreams, Sigmund Freud proposed that dreams are a form of wish-fulfillment, representing the disguised expression of repressed unconscious thoughts and desires. He described the process by which the hidden, true meaning of a dream (the latent content) is transformed into the story the dreamer remembers (the manifest content). This transformation process is called dream work and involves several mechanisms. These mechanisms include :1. Condensation : Multiple dream thoughts or elements are combined and represented by a single image or idea in the manifest dream.2. Displacement : The emotional significance of a dream object or person is separated from its real object and attached to an entirely different one that is less threatening.3. Symbolization (or Representation) : Abstract thoughts and feelings are converted into concrete visual images or symbols.Correlation is a statistical term describing a relationship between variables and is not a concept used by Freud to describe the mechanisms of dream work.

Question 251. What is the term for the expression and release of previously repressed emotions?

A. Regression

B. Dissociation

C. Abreaction

D. All of the above

Correct answer: C

Abreaction, also known as catharsis, is a psychoanalytic term used to describe the process of

reliving a past, traumatic emotional experience and expressing the intense, repressed emotions associated with it. Freud and Breuer initially developed this concept, believing that neurotic symptoms were caused by strangulated affect—emotions that were not adequately expressed at the time of a traumatic event. The therapeutic process involved bringing the memory of the trauma back to conscious

Question 252. What is the modern medical term used to describe Down syndrome?

A. Intellectualdevelopmentaldisorder

B. Chromosomal mental retardation

C. Trisomy 21

D. Congenital psychiatric syndrome

Correct answer: C

Down syndrome is currently described in medical terminology as Trisomy 21. This term reflects the underlying genetic cause of the condition—an extra copy of chromosome 21. Instead of the usual two copies, individuals with this condition have three copies of chromosome 21, leading to a total of 47 chromosomes.The term “Trisomy 21” is preferred in scientific and clinical settings because it accurately describes the chromosomal abnormality responsible for the condition. It avoids outdated and potentially stigmatizing language.Option (A), intellectual developmental disorder, refers to a broader category of cognitive impairment and is not specific to Down syndrome. Option (B), chromosomal mental retardation, uses outdated terminology and is not medically appropriate. Option (D), congenital psychiatric syndrome, is incorrect because Down syndrome is a genetic chromosomal condition, not a primary psychiatric disorder.Therefore, the current and correct medical term for Down syndrome is Trisomy 21.

Question 253. A 5-year-old chronic alcoholic presents with irrelevant speech, tremors, and sweating, having taken his last drink days earlier. What is the most likely diagnosis?

A. Delirium tremens

B. Korsakoff psychosis

C. Post-Acute withdrawal syndrome

D. Discontinuation syndrome

Correct answer: A

The patient's clinical presentation is the classic picture of Delirium Tremens (DTs), the most severe manifestation of alcohol withdrawal syndrome. DTs typically occur in individuals with a long history of heavy alcohol use after a period of cessation or significant reduction in intake. The onset is usually 48 to 96 hours (2 to 4 days) after the last drink, which fits the patient's time line of 3 days. The hallmark features of DTs are all present :Delirium : Characterized by confusion, disorientation, and altered consciousness, leading to irrelevant speech.Autonomic Hyperactivity : Manifesting as sweating (diaphoresis), tachycardia, hypertension, and

fever.Agitation and Tremors : A severe, coarse tremor is characteristic.Visual or tactile hallucinations are also common. Korsakoff psychosis is a chronic memory disorder associated with thiamine deficiency. Post-acute withdrawal syndrome involves more subtle, prolonged symptoms. Delirium tremens is a medical emergency with significant mortality if untreated.

Question 254. Which feature best distinguishes delirium from dementia?

A. Confusion

B. Difficulty in communicating

C. Hallucination

D. sudden change

Correct answer: D

The key difference between delirium and dementia lies in the onset and course of symptoms. Delirium is characterized by an acute and sudden onset of confusion, typically developing over hours to days. It often fluctuates throughout the day and is usually caused by an underlying medical condition such as