NEET PG 2021 Question Paper

143 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. A young boy presents with multiple fractures of the humerus and subsequently develops sensory loss over the lateral aspect of the forearm, along with weakness in elbow flexion and forearm supination. Which nerve injury is most likely responsible for these findings?

A. Musculocutaneous nerve

B. Median nerve

C. Axillary

D. Radial nerve

Correct answer: A

This combination of symptoms points directly to an injury of the musculocutaneous nerve. This

Question 2. Which blood vessel is responsible for carrying deoxygenated blood from the fetus back to the placenta?

A. Umbilical artery

B. Umbilical vein

C. Ductus venosus

D. Inferior vena cava

Correct answer: A

In fetal circulation, the roles of the umbilical arteries and vein are reversed compared to systemic circulation in an adult. The umbilical artery, of which there are two, carries deoxygenated blood and waste products from the fetus to the placenta for oxygenation and removal. Conversely, the single umbilical vein (B) carries highly oxygenated and nutrient-rich blood from the placenta to the fetus. The ductus venosus (C) is a shunt that allows a portion of this oxygenated blood from the umbilical vein to bypass the fetal liver and go directly to the inferior vena cava (D). Therefore, it is the umbilical arteries that are responsible for returning deoxygenated blood to the maternal circulation via the placenta.

Question 3. Which anatomical structure prevents the downward (vertical) displacement of the spleen?

A. Phrenocolic ligament

B. Hepatogastric ligament

C. Ligamentum teres

D. Ligamentum flavum

Correct answer: A

No explanation is available for this recall question yet.

Question 4. Which nerve is responsible for mediating the gag reflex?

A. 6th Cranial Nerve

B. 7th Cranial Nerve

C. 9th Cranial Nerve

D. 11th cranial nerve

Correct answer: C

The gag reflex (or pharyngeal reflex) involves two key cranial nerves. The afferent (sensory) limb of the reflex is mediated by the 9th cranial nerve (glossopharyngeal nerve). When the posterior pharynx, tonsils, or base of the tongue is touched, sensory signals are transmitted via the glossopharyngeal nerve to the brainstem. The efferent (motor) limb, which causes the contraction of the pharyngeal muscles, is primarily mediated by the 10th cranial nerve (vagus nerve). Since the question asks which nerve is responsible for the reflex, and the 9th nerve is the primary sensory trigger, it is the correct answer among the choices. The 6th (abducens) and 11th (accessory) nerves are purely motor, and the 7th (facial) nerve has different sensory and motor functions.

Question 5. A patient undergoes coronary artery bypass grafting using the great saphenous vein and later develops neuralgia along the medial aspect of the leg and foot. Which nerve is most likely to have been injured during the procedure?

A. Sural nerve

B. Tibial nerve

C. Saphenous nerve

D. Common peroneal nerve

Correct answer: C

The great saphenous vein is commonly harvested for use as a conduit in CABG surgery. The saphenous nerve runs in close proximity to this vein along the medial aspect of the leg and foot. During the surgical harvesting of the vein, the saphenous nerve is highly susceptible to stretching, transection, or entrapment. Injury to this nerve results in sensory disturbances, such as pain (neuralgia), numbness, or tingling, in its distribution area, which is the medial aspect of the leg and foot. This is a well-recognized complication of great saphenous vein harvesting. The sural nerve (A) supplies the lateral aspect of the foot, while the tibial (B) and common peroneal (D) nerves have different and more extensive sensory and motor distributions.

Question 6. Through which secondary messenger system do β_2-adrenergic receptors

exert their effects?

A. Adenylate Cyclase

B. Tyrosine kinase receptors

C. TGF-beta receptors

D. Cytokine receptors

Correct answer: A

Beta-2 adrenergic receptors are a type of G-protein coupled receptor (GPCR). Specifically, they are coupled to a stimulatory G-protein (Gs). When a ligand like epinephrine binds to the beta-2 receptor, it activates the Gs protein. This activated protein, in turn, stimulates the membrane-bound enzyme adenylate cyclase. Adenylate cyclase then catalyzes the conversion of ATP into the second messenger, cyclic adenosine monophosphate (cAMP). The increased intracellular levels of cAMP activate Protein Kinase A (PKA), which then phosphorylates various downstream targets to produce the final physiological effect, such as bronchodilation or vasodilation. Tyrosine kinase receptors (B) are a different class of receptors used by insulin and growth factors.

Question 7. A child with dehydration is treated with oral rehydration solution (ORS). Which receptor or transporter in the gastrointestinal tract facilitates glucose absorption in this process?

A. SGLT 1

B. SGLT 2

C. GLUT 1

D. GLUT 2

Correct answer: A

The effectiveness of Oral Rehydration Solution (ORS) is based on the coupled transport of sodium and glucose in the small intestine. The absorption of glucose from the intestinal lumen into the enterocytes is primarily mediated by the Sodium-Glucose Linked Transporter 1 (SGLT1). This transporter is located on the apical membrane of intestinal epithelial cells. It functions by using the electrochemical gradient of sodium to co-transport one molecule of sodium along with one molecule of glucose into the cell. This process is a form of secondary active transport. The absorption of sodium and glucose creates an osmotic gradient that drives the passive absorption of water, effectively rehydrating the patient. SGLT2 (B) is found in the kidneys, while GLUT transporters (C, D) are involved in facilitated diffusion of glucose.

Question 8. A patient presents with cold skin, fatigue, exertional dyspnea, and hepatomegaly. Examination of the jugular venous pulse shows a prominent a wave. What is the most likely cause of this exaggerated a wave in this patient?

A. Tricuspid Regurgitation

B. Tricuspid Stenosis

C. Mitral Regurgitation

D. Mitral Stenosis

Correct answer: B

The patients symptoms (fatigue, dyspnea, enlarged liver) are suggestive of right-sided heart failure. The key diagnostic sign is the prominent a wave in the jugular venous pressure (JVP). The a wave represents the rise in right atrial pressure during atrial contraction (atrial systole). In tricuspid stenosis, the tricuspid valve is narrowed, creating an obstruction to blood flow from the right atrium to the right

Question 9. A patients body fluid compartment analysis shows the following ion concentrations : sodium 10 mEq/L, potassium 140 mEq/L, and chloride 15 mEq/L. Based on these electrolyte values, which fluid compartment is being represented?

A. Interstitial fluid

B. ECF

C. ICF

D. Plasma

Correct answer: C

The bodys fluid compartments have distinct ionic compositions. The intracellular fluid (ICF), which is the fluid inside the cells, is characterized by a high concentration of potassium (K+) and a low concentration of sodium (Na+) and chloride (Cl-). The values provided (K+ 140 mEq/L, Na+ 10 mEq/L) are classic for the intracellular environment. In contrast, the extracellular fluid (ECF), which includes plasma and interstitial fluid, is characterized by a high concentration of sodium (around 140 mEq/L) and chloride, and a very low concentration of potassium (around 4 mEq/L). The given ion profile is the inverse of the ECF and is definitively representative of the intracellular fluid compartment.

Question 10. An elderly woman presents with involuntary dribbling of urine that occurs only during coughing or straining. What type of urinary incontinence is she most likely experiencing?

A. Stress incontinence

B. Urge incontinence

C. Overflow incontinence

D. Neurogenic bladder

Correct answer: A

Stress incontinence is defined as the involuntary leakage of urine during activities that increase intra-abdominal pressure. The patients symptom of urine dribbling specifically on coughing and straining is the classic presentation of this

Question 11. A young patient presents with muscle spasms, tingling in the hands and

feet, seizures, and episodes of breathing difficulty due to laryngospasm, and laboratory investigations show an electrolyte abnormality. What is the most likely underlying cause of these symptoms?

A. Respiratory Acidosis

B. Respiratory Alkalosis

C. Metabolic Acidosis

D. Metabolic Alkalosis

Correct answer: B

The patients symptoms of muscle spasms (tetany), perioral and extremity numbness (paresthesias), seizures, and laryngospasm are all signs of acute hypocalcemia. Specifically, they are caused by a decrease in the level of ionized calcium in the blood. Acute respiratory alkalosis, often caused by hyperventilation, is a common cause of these symptoms. The increase in blood pH (alkalosis) causes more calcium to bind to albumin, which decreases the physiologically active ionized calcium fraction. This reduction in ionized calcium increases neuromuscular excitability, leading to tetany and the other neurological symptoms described. While other electrolyte imbalances can cause some of these symptoms, the full constellation in an acute setting is highly suggestive of symptomatic hypocalcemia secondary to respiratory alkalosis.

Question 12. A patient with a history of vomiting was treated with an antiemetic and subsequently developed abnormal involuntary movements suggestive of extrapyramidal symptoms or acute dystonia. Which medication should be administered to manage these abnormal movements?

A. Methyl dopa

B. Benzhexol MEDINK CHAPTER 02_PHYSIOLOGY

C. Hyoscine

D. Cyproheptadine

Correct answer: B

BenzhexolThe patient has developed a drug-induced acute dystonic reaction, a type of extrapyramidal symptom (EPS). This is a common side effect of dopamine D2 receptor antagonist drugs, which include many common antiemetics (like metoclopramide and prochlorperazine) and antipsychotics. These reactions are caused by a temporary imbalance between the dopaminergic (inhibitory) and cholinergic (excitatory) pathways in the basal ganglia. The blockade of dopamine receptors leads to a relative excess of cholinergic activity, resulting in involuntary muscle spasms affecting the neck (torticollis), eyes (oculogyric crisis), or trunk. The specific antidote for this condition is an anticholinergic medication, which works to restore the dopaminergic-cholinergic balance. Benzhexol (also known as trihexyphenidyl) is an anticholinergic agent used for this purpose. Other commonly used treatments include

benztropine and the antihistamine diphenhydramine, which also has strong anticholinergic properties.

Question 13. A patient consuming a predominantly maize-based diet presents with diarrhea, dementia, and dysentery. Deficiency of which vitamin is responsible for these symptoms?

A. Niacin

B. Thiamine

C. Riboflavin

D. Pyridoxine

Correct answer: A

The classic triad of diarrhea, dementia, and dermatitis (the 3 Ds) is pathognomonic for pellagra, the disease caused by a severe deficiency of niacin (Vitamin B3). A diet consisting predominantly of maize (corn) is a major risk factor for pellagra. This is because the niacin present in maize is in a bound, non-bioavailable form. Additionally, maize is low in the amino acid tryptophan, which the body can use to synthesize niacin. Therefore, individuals on a maize-based diet are at high risk for developing this deficiency. The symptoms described, including diarrhea and dementia, are classic

Question 14. A patient presents with dry eyes, a gritty or foreign-body sensation, and evidence of corneal softening. What is the most probable underlying cause?

A. Vitamin A deficiency

B. Riboflavin Deficiency

C. Viral Keratitis

D. Follicular conjunctivitis

Correct answer: A

The ocular manifestations described are classic signs of severe Vitamin A deficiency, collectively known as xerophthalmia. The initial symptom is often night blindness, followed by xerosis, which is an abnormal dryness of the conjunctiva and cornea, leading to a gritty sensation. As the deficiency worsens, it can lead to keratomalacia, which is a softening, melting, and liquefaction of the cornea. This is a medical emergency that can rapidly progress to corneal ulceration, perforation, and permanent blindness. The combination of dry eyes and corneal softening is highly specific for advanced Vitamin A deficiency. Riboflavin deficiency can cause ocular symptoms, but not corneal softening.

Question 15. In a patient with cystathionine β-synthase deficiency, which amino acid must be supplemented through the diet?

A. Cysteine

B. Methionine

C. Serine

D. Tryptophan

Correct answer: A

Cystathionine beta-synthase (CBS) is a key enzyme in the transforation pathway, which converts homocysteine to cystathionine. This pathway is the primary route for the synthesis of the amino acid cysteine from the essential amino acid methionine. In a patient with a deficiency of CBS (the cause of classic homo cystinuria), this conversion is blocked. As a result, cysteine cannot be synthesized endogenously from methionine. This makes cysteine a conditionally essential amino acid for these patients, meaning

Question 16. Corneal transparency is primarily maintained by which glycosaminoglycan (GAG)?

A. Keratan Sulphate

B. Dermatan Sulphate

C. Heparan Sulphate

D. Chondroitin Sulphate

Correct answer: A

The transparency of the cornea is a remarkable feature that depends on the highly organized and uniform arrangement of its collagen fibrils within the stroma. The specific glycosaminoglycans (GAGs) present in the corneal stroma play a crucial role in maintaining this precise architecture and hydration level. The predominant GAGs in the cornea are keratan sulfate and chondroitin sulfate. Keratan sulfate, in particular, is essential for regulating the spacing between collagen fibrils and controlling stromal hydration. This precise organization minimizes light scattering and allows light to pass through unimpeded, thus maintaining corneal transparency. Defects in keratan sulfate metabolism, as seen in macular corneal dystrophy, lead to corneal clouding.

Question 17. Which of the following conditions is associated with a defect in the DNA mismatch repair system?

A. Hereditary NPCC

B. SCID

C. Bloom Disorder

D. MUTYH Associated Polyposis

Correct answer: A

Hereditary Non-Polyposis Colorectal Cancer (HNPCC), also known as Lynch syndrome, is an autosomal dominant genetic condition that confers a high risk of colorectal cancer and other cancers (e.g., endometrial, ovarian, gastric). The underlying genetic cause of HNPCC is a germline mutation in one of the DNA mismatch repair (MMR) genes, most commonly MSH2 or MLH1. These genes are responsible for correcting errors that occur during DNA replication. A

Question 18. A patient eats dinner at 8 PM and undergoes a blood glucose test at 7 AM the next morning. What is the primary source of glucose in the blood at this time?

A. Muscle Glycogen

B. Liver Glycogen

C. Gluconeogenesis

D. Dietary Carbohydrate

Correct answer: B

The blood test is performed after an 11-hour overnight fast. During the post-absorptive or early fasting state (from about 4 to 12-16 hours after a meal), the primary mechanism for maintaining blood glucose homeostasis is the breakdown of stored glycogen in the liver, a process called hepatic glycogenolysis. The liver stores enough glycogen to supply the bodys glucose needs for this period. As the fast progresses beyond 12 hours, liver glycogen stores become depleted, and gluconeogenesis (C), the synthesis of new glucose primarily in the liver, becomes the predominant source. Muscle glycogen (A) cannot be released into the bloodstream to maintain blood glucose because muscle lacks the enzyme glucose-6-phosphatase. Dietary carbohydrates (D) are exhausted within a few hours of the meal.

Question 19. A 5-year-old child is brought to the physician with a history of black-colored urine. There is no history of fever or other symptoms, growth is normal, and developmental milestones are appropriate for age. The child is suspected to have an enzyme deficiency affecting the metabolism of an aromatic amino acid. Which enzyme is most likely deficient?

A. Homogentistae oxidase

B. Homogentisate dehydrogenase

C. Tryptophan Hydroxylase

D. Tyrosine Transaminase

Correct answer: A

The history of urine turning black upon standing in an otherwise healthy child is the pathognomonic sign of alkaptonuria. This is a rare autosomal recessive disorder of tyrosine metabolism caused by a deficiency of the enzyme homogentisate oxidase (also known as homogentisate 1,2-dioxygenase). This enzyme defect leads to the accumulation of homogentisic acid. When excreted in the urine, homogentisic acid oxidizes and polymerizes upon exposure to air, forming a black pigment. While asymptomatic in childhood apart from the dark urine, the long-term accumulation of this pigment in connective tissues (ochronosis) leads to debilitating arthritis and other complications in adulthood.

Question 20. A patient presents with tendon xanthomas along with elevated LDL and total cholesterol levels. What is the most probable diagnosis?

A. Type I Hyperlipoproteinemia

B. Type II Hyperlipoproteinemia

C. Type III Hyperlipoproteinemia

D. Abetalipoproteinemia

Correct answer: B

This clinical picture is classic for Type IIa Hyperlipoproteinemia, also known as Familial Hypercholesterolemia (FH). This genetic disorder is most commonly caused by a defect in the LDL receptor, which leads to impaired clearance of Low-Density Lipoprotein (LDL) from the circulation. The result is a marked elevation of serum LDL and total cholesterol levels from birth. The excess cholesterol deposits in various tissues, leading to the formation of tendon xanthomas (especially on the Achilles and extensor tendons of the hands) and xanthelasmas (on the eyelids). These patients are at extremely high risk for premature atherosclerotic cardiovascular disease. Type I is characterized by high chylomicrons, and Type III by high remnant particles.

Question 21. A patient presents with generalized weakness and easy fatigability and reports occupational exposure to benzene while working in a factory. Which condition should be most strongly suspected in this case?

A. Leukemia

B. Urinary Bladder Cancer

C. Carcinoma Gall Bladder

D. Hepatocellular Carcinoma

Correct answer: A

Benzene is a well-established hematotoxic and carcinogenic chemical. Chronic occupational exposure to benzene is a significant risk factor for bone marrow disorders. The symptoms of weakness and fatigability suggest anemia or other cytopenias resulting from bone marrow suppression. Most importantly, benzene exposure is strongly linked to an increased risk of developing hematologic malignancies, particularly Acute Myeloid Leukemia (AML). It can also cause aplastic anemia and myelodysplastic syndrome, which can then progress to leukemia. Therefore, in a patient with a history of benzene exposure presenting with symptoms of bone marrow failure, leukemia must be highly suspected. Urinary bladder cancer (B) is associated with aromatic amines, not benzene itself.

Question 22. A chronic alcoholic presents with progressively increasing abdominal girth, and liver biopsy shows reddish cytoplasmic inclusions within hepatocytes. What are these inclusions composed of ?

A. Triglycerides

B. Glycogen

C. Intermediate filaments

D. Hemosiderin

Correct answer: C

The reddish, eosinophilic intracytoplasmic inclusions found within damaged hepatocytes in alcoholic liver disease are known as Mallory bodies or Mallory-Denk bodies. These inclusions are not specific to alcoholic hepatitis but are a characteristic feature. Ultrastructurally, Mallory bodies are composed of tangled aggregates of intermediate filaments, primarily keratins 8 and 18, along with other proteins like ubiquitin. Their presence indicates significant hepatocellular injury and stress. While alcoholic liver disease is also characterized by fat accumulation (steatosis, composed of triglycerides), the specific reddish inclusions refer to Mallory bodies. Glycogen (B) and hemosiderin (D) have different appearances and are associated with other conditions.

Question 23. All are increased in IDA except

A. TIBC

B. Soluble transferrin receptor

C. Transferrin saturation

D. Erythropoietin

Correct answer: C

In Iron Deficiency Anemia (IDA), the bodys iron stores are depleted. In response, the liver increases the production of transferrin, the main iron transport protein, in an attempt to scavenge more iron. This leads to an increase in the Total Iron-Binding Capacity (TIBC) (A). As the cells become starved for iron, they upregulate the expression of transferrin receptors on their surface, leading to an increase in the level of soluble transferrin receptors (sTfR) in the plasma (B). The anemia also stimulates the kidneys to produce more erythropoietin (D) to drive red blood cell production. However, because there is very little iron available, the transferrin protein is largely unsaturated. Therefore, the transferrin saturation (serum iron / TIBC × 100), is characteristically decreased, not increased.

Question 24. A womans Pap smear shows disorganized cellular growth with hyperchromatic nuclei. Which pathological phenomenon is most likely occurring in this case ?

A. Dysplasia

B. Metaplasia

C. Hypertrophy

D. Carcinoma

Correct answer: A

The description of disorganized growth of cells with hyperchromatic nuclei on a Pap smear is the definition of dysplasia. Dysplasia refers to disordered cellular growth and is considered a pre-neoplastic condition. Cytologically, it is characterized by features such as loss of cellular

uniformity and architectural orientation, pleomorphism (variation in cell size and shape), and nuclear abnormalities like hyperchromasia (darkly staining nuclei), increased nuclear-to-cytoplasmic ratio, and irregular nuclear contours. While severe dysplasia may be a precursor to carcinoma (D), the term itself describes the abnormal cellular changes, not invasive cancer. Metaplasia (B) is a reversible

Question 25. Which of the following factors is considered a poor prognostic marker in multiple myeloma?

A. Serum Creatinine

B. Hypercalcemia

C. B2 microglobulins

D. Telomerase

Correct answer: C

Beta-2 microglobulin (β2M) is a small protein found on the surface of most nucleated cells and is shed into the blood. In multiple myeloma, its serum level correlates directly with the tumor burden and disease activity. A high serum β2M level indicates a large number of myeloma cells and is one of the most powerful independent poor prognostic markers. It is a key component of the International Staging System (ISS) and the Revised-ISS for multiple myeloma, where higher levels are associated with more advanced stages and shorter survival. While elevated serum creatinine (A) and hypercalcemia (B) are common complications and indicate end-organ damage, β2M is a more direct and powerful measure of tumor load and prognosis.

Question 26. An 8-year-old man presents to the outpatient department with gum bleeding, fever, leukopenia, and thrombocytopenia. General physical examination is normal. Further evaluation shows a low reticulocyte count, absence of megakaryocytes, and no immature cells in the bone marrow. What is the most likely diagnosis?

A. Aplastic anemia

B. Acute Myeloid Leukemia (AML)

C. Immune Thrombocytopenic Purpura (ITP)

D. Myelodysplastic Syndrome (MDS)

Correct answer: A

The patient presents with pancytopenia (low white blood cells, low platelets, and likely anemia given gum bleeding). The key to the diagnosis lies in the bone marrow findings. The bone marrow shows an absence of precursor cells (absent megakaryocytes) and an overall lack of hematopoietic cells (no immature cells), with a corresponding low reticulocyte count, indicating bone marrow failure. This picture of a hypo cellular or empty bone marrow is the hallmark of aplastic anemia. In leukemia (B) or MDS (D), the bone marrow would be hyper cellular with an excess of blasts or dysplastic cells. ITP (C) is characterized by isolated

Question 27. HNPCC has defect in

A. Nucleotide excision

B. Base pair excision

C. Point mutation

D. Mismatch repair gene

Correct answer: D

Hereditary Non-Polyposis Colorectal Cancer (HNPCC), also known as Lynch syndrome, is an autosomal dominant condition caused by germline mutations in genes responsible for DNA mismatch repair (MMR). The most commonly affected genes are MLH1, MSH2, MSH6, and PMS2. These genes encode proteins that act as spell checkers to correct errors that occur during DNA replication. When one of these genes is defective, replication errors accumulate throughout the genome, leading to a state of high genetic instability known as microsatellite instability (MSI). This instability dramatically increases the lifetime risk of developing colorectal cancer and other malignancies, such as endometrial and ovarian cancer.

Question 28. A patient presents with generalized fatigue, normal total and differential leukocyte counts, and superficial discrete lymphadenopathy. Lymph node biopsy reveals effacement of architecture with atypical cells having indented nuclei and prominent nucleoli, and immunohistochemistry is positive for CD10 and BCL-. What is the most likely diagnosis?

A. Follicular Lymphoma

B. Burkitts Lymphoma

C. Hodgkin Lymphoma

D. Mycosis Fungoides

Correct answer: A

This is a classic presentation of Follicular Lymphoma, a common type of low-grade B-cell non-Hodgkin lymphoma. The biopsy shows an effaced architecture with a follicular (nodular) pattern composed of atypical lymphocytes with indented or cleaved nuclei (centrocytes). The immuno phenotype is key : the cells are positive for the B-cell marker CD10 (a germinal center

Question 29. A man is found sitting naked on a balcony overlooking a public park for the purpose of sexual gratification. What is this behavior known as?

A. Voyeurism

B. Masochism

C. Exhibitionism

D. Fetishism

Correct answer: C

Exhibitionism is a paraphilic disorder characterized by recurrent, intense sexual arousal from the exposure of ones genitals to an unsuspecting stranger. The act of exposing oneself is done

for the purpose of achieving sexual gratification. The scenario described—a man exposing himself in a public-facing location to be seen by others—is the defining behavior of exhibitionism. Voyeurism (A) is the act of secretly watching others in sexual or private situations. Masochism (B) involves deriving sexual gratification from being humiliated, beaten, or made to suffer. Fetishism (D) involves sexual arousal from non-living objects or non-genital body parts.

Question 30. A daily wage laborer working outdoors on a hot summer day suddenly collapses and is brought to the hospital, where his body temperature is recorded as °F. Which of the following clinical features is least likely to be observed in this condition?

A. Sweating

B. Hot skin

C. Hypotension

D. Disorientation

Correct answer: A

This patient has heat stroke, a medical emergency defined by a core body temperature above 40°C (104°F) and central nervous system dysfunction (collapse, disorientation). There are two types : classic and exertional. In classic heat stroke, the bodys thermoregulatory center fails, and sweating ceases (anhidrosis), leaving the skin hot and dry. In exertional heat stroke, which is more likely in a laborer, the patient may still be sweating profusely. However, anhidrosis is the classic textbook sign that differentiates heat stroke from heat exhaustion. Therefore, of the options listed, the absence of sweating is the most likely intended least likely symptom, particularly for classic heat stroke. Hot skin, hypotension, and disorientation are all defining features of the condition.

Question 31. A child accidentally consumes a fruit from a tree while playing and subsequently develops restlessness, painful swallowing, photophobia, dry skin, urinary retention, and hyperthermia. What is the most likely cause of this poisoning, and which antidote should be administered?

A. Datura poisoning & Physostigmine

B. Yellow Oleander poisoning & Atropine

C. Organophosphate poisoning & Pralidoxime

D. Datura poisoning & Pralidoxime

Correct answer: A

The constellation of symptoms—restlessness (CNS excitation), photophobia (from mydriasis), dry skin, urinary retention, hyperthermia, and dysphagia—is a classic presentation of the anticholinergic toxidrome. This is often remembered by the mnemonic mad as a hatter, blind as a bat, red as a beet, hot as a hare, and dry as a bone. Datura (Jimsonweed) is a common plant

whose fruits contain the potent anticholinergic alkaloids atropine and scopolamine. The specific antidote for severe anticholinergic poisoning with CNS effects is physostigmine. It is a cholinesterase inhibitor that, as a tertiary amine, can cross the blood-brain barrier to reverse both central and peripheral symptoms. Pralidoxime (C, D) is an antidote for organophosphate poisoning.

Question 32. A -year-old man presents after ingesting an unknown substance and is found to have sweating, headache, and symptoms suggestive of acute coronary vasospasm. Which of the following clinical features is least likely to be seen in this patient?

A. Bradycardia

B. Tachycardia

C. Hyperthermia

D. Hypertension

Correct answer: A

The clinical picture of diaphoresis (sweating), headache, hypertension, and coronary vasospasm suggests a sympathomimetic toxidrome, most likely from a substance like cocaine or amphetamines. These drugs cause a massive release and blocked reuptake of catecholamines (norepinephrine, dopamine,

Question 33. While recording evidence in a court of law, a lawyer asked the witness, Were you present when A killed B?, and the witness answered yes. This type of leading questioning is permitted in :

A. Examination in chief

B. Direct examination

C. Redirect examination

D. Cross examination

Correct answer: D

A leading question is one that suggests the desired answer or contains the information the questioner is looking to have confirmed (e.g., You were at the scene, werent you?). According to the rules of evidence, leading questions are generally prohibited during direct examination (or examination-in-chief) (A, B) and re-direct examination (C), where the lawyer is questioning their own witness. The purpose of these examinations is to have the witness provide their testimony in their own words. However, leading questions are permitted during cross-examination, where a lawyer is questioning a witness called by the opposing party. The goal of cross-examination is to challenge the witnesss testimony and test their credibility.

Question 34. A woman delivers twins, but her husband requests DNA fingerprinting because he suspects that one or both children may not be biologically his. The test

results reveal that one twin is not his. This situation represents which phenomenon?

A. Superfecundation

B. Superfetation

C. Atavism

D. Posthumus child

Correct answer: A

No explanation is available for this recall question yet.

Question 35. What is the mechanism of action of Tocilizumab

A. Inhibits binding of IL-1

B. Inhibits binding of IL-6 to its receptor IL-6R

C. TNF Alpha inhibition

D. IL-18 inhibition

Correct answer: B

Tocilizumab is a recombinant humanized monoclonal antibody that functions as a biologic disease-modifying antirheumatic drug (DMARD). Its mechanism of action is to specifically target the interleukin-6 (IL-6) receptor. By binding to both soluble and membrane-bound IL-6 receptors (IL-6R), tocilizumab prevents IL-6 from binding and initiating its pro-inflammatory signaling cascade. IL-6 is a key cytokine involved in a wide range of inflammatory processes, including the pathogenesis of rheumatoid arthritis, systemic juvenile idiopathic arthritis, and cytokine release syndrome. By blocking its action, tocilizumab effectively reduces inflammation. Anakinra is an IL-1 inhibitor (A), and drugs like infliximab are TNF-alpha inhibitors (C).

Question 36. What is the mechanism by which methotrexate exerts its pharmacological action?

A. Inhibition of Dihydrofolate reductase

B. Inhibits cell replication by acting on G phase of cell cycle

C. Inhibits pyrimidine synthesis

D. Inhibits Thymidylate synthase

Correct answer: A

Methotrexate is a folate antagonist. Its primary mechanism of action is the competitive inhibition of the enzyme dihydrofolate

Question 37. A patient is being treated with metronidazole for an anaerobic infection. Which substance or medication should be avoided during this treatment period?

A. Alcohol

B. Ciprofloxacin

C. Rifampicin

D. Colchicine

Correct answer: A

Patients taking metronidazole must be strictly advised to avoid consuming alcohol during treatment and for at least 48-72 hours after the last dose. Metronidazole can cause a disulfiram-like reaction when taken with alcohol. It inhibits the enzyme aldehyde dehydrogenase, which is responsible for breaking down acetaldehyde, a toxic metabolite of alcohol. The accumulation of acetaldehyde in the body leads to a variety of unpleasant symptoms, including severe flushing, throbbing headache, nausea, vomiting, sweating, tachycardia, and hypotension. This reaction can be severe and distressing, so complete avoidance of all alcohol-containing products (including certain medications and mouthwashes) is essential.

Question 38. Which antitubercular drug inhibits the activity of OCPS (ornithine carbamoyl phosphate synthetase)?

A. Rifampicin

B. Ethambutol

C. Isoniazid

D. Pyrazinamide

Correct answer: A

Rifampicin is a potent inducer of the cytochrome P450 (CYP450) enzyme system in the liver, particularly the CYP3A4 isoenzyme. This enzyme system is responsible for the metabolism of a vast number of drugs, including the estrogen and progestin components of oral contraceptive pills (OCPs). By inducing these enzymes, rifampicin significantly accelerates the breakdown and clearance of the hormones in OCPs. This leads to lower circulating levels of the contraceptive hormones, which can result in contraceptive failure and unintended pregnancy. Therefore, women taking rifampicin should be advised to use alternative or additional non-hormonal methods of contraception. The other first-line anti-tubercular drugs do not have this significant enzyme-inducing effect.

Question 39. A patient receiving digoxin therapy develops atrial fibrillation with a controlled ventricular rate, and testing reveals higher serum digoxin levels than previously recorded. Which concomitant medication is most likely responsible for increasing digoxin toxicity?

A. Atenolol

B. Clarithromycin

C. KCL

D. Triamterene

Correct answer: B

Digoxin has a narrow therapeutic index, and its levels can be affected by numerous drug

interactions. One important mechanism is the inhibition of P-glycoprotein, an efflux transporter in the gut and kidneys that is responsible for clearing digoxin from the body. Clarithromycin, a macrolide antibiotic, is a known inhibitor of P-glycoprotein. By inhibiting this transporter, clarithromycin reduces the intestinal and renal clearance of digoxin, leading to a significant increase in its serum concentration and a heightened risk of toxicity. Hypokalemia (which would be treated with KCL) can also potentiate digoxin toxicity at the myocardial level, but clarithromycin directly raises the drug level.

Question 40. Topiramate is used in

A. Treatment of Acute Migraine

B. Management of Seizures in Lennox-Gastaut Syndrome

C. 1st Line Treatment of ADHD

D. Treatment of Dementia

Correct answer: B

Topiramate is an antiepileptic drug with multiple mechanisms of action. It is used as an adjunctive therapy for various seizure types, including partial-onset and primary generalized tonic-clonic seizures. Notably, it is specifically approved for the adjunctive management of seizures associated with Lennox-Gastaut Syndrome (LGS), a severe form of childhood-onset epilepsy characterized by multiple seizure types and developmental delay. Topiramate is also widely used for the prophylaxis (prevention) of migraine headaches, but not typically for the treatment of an acute migraine attack (A). It is not a first-line treatment for ADHD (C) or dementia (D).

Question 41. Which vector transmits a parasite that possesses a kinetoplast in one of its morphological stages?

A. Sand fly

B. TseTse fly

C. Female Anopheles Mosquito

D. Triatomine bug

Correct answer: A

Parasites that possess a kinetoplast (a distinctive mass of mitochondrial DNA) belong to the order Kinetoplastida, which includes the genera Leishmania and Trypanosoma.Leishmania species, which cause leishmaniasis, are transmitted by the bite of a female sand fly (phlebotomine sandfly).Trypanosoma brucei, which causes African sleeping sickness, is transmitted by the Tsetse fly (B).Trypanosoma cruzi, which causes Chagas disease, is transmitted by the triatomine bug (D).Plasmodium species, which cause malaria and are transmitted by the Anopheles mosquito (C), do not have a kinetoplast.Given the options, all A, B, and D are vectors for kinetoplast-containing parasites. However, without further context, and considering

Question 42. A patient with known AIDS presents with fever and productive cough and is found to have consolidation in the right infrascapular region. Chest X-ray reveals right lower lobe consolidation, and the CD4 count is 55 cells/µL. What is the most common cause of this presentation?

A. Staphylococcus aureus

B. Streptococcus pneumoniae

C. Mycoplasma pneumoniae

D. Pneumocystis jirovecii

Correct answer: D

The patient has AIDS with a very low CD4 count (55 cells/µL), which indicates severe immunosuppression. In patients with HIV/AIDS, opportunistic infections become common when the CD4 count falls below 200 cells/µL. One of the most frequent opportunistic pulmonary infections in such patients is caused by Pneumocystis jirovecii, leading to Pneumocystis pneumonia.Pneumocystis pneumonia typically presents with fever, cough, and progressive breathlessness in immunocompromised individuals. Although the cough is usually dry, it may sometimes appear productive. The infection causes inflammation and filling of the alveoli with foamy proteinaceous material, impairing gas exchange.On imaging, chest X-ray may show bilateral diffuse interstitial infiltrates, though in some cases focal consolidation may occur. Because the patient’s CD4 count is far below 200, PCP becomes the most common and clinically important cause of pneumonia in such individuals.Therefore, the most likely pathogen responsible for this presentation is Pneumocystis jirovecii.

Question 43. Which parasite produces microfilariae that are sheathed and lack nuclei at the tail end?

A. Wuchereria Bancrofti

B. Brugia malayi

C. Loa loa

D. Onchocerca volvulus

Correct answer: A

The microscopic differentiation of various microfilariae species is based on key features, including the presence or absence of a sheath and the arrangement of nuclei in the tail. The microfilaria of Wuchereria bancrofti is characterized by being sheathed and having a tail tip that is devoid of nuclei. In contrast, Brugia malayi (B) is also sheathed but has two distinct, terminal nuclei at the tip of its tail. Loa loa (C) is sheathed, and its nuclei extend continuously to the tip of the tail. Onchocerca volvulus (D) is unsheathed and has no nuclei in its tail tip. The combination of a sheath and an anucleated tail tip is the specific identifying feature for W. bancrofti.

Question 44. A patient develops food poisoning after consuming pastries. Which

organism is the most likely causative agent?

A. Staphylococcus aureus

B. Bacillus cereus

C. Enteroinvasive E. coli (EIEC)

D. Verotoxin-producing E. coli

Correct answer: A

Food poisoning characterized by a rapid onset of nausea and vomiting (typically within 1-6 hours) after consuming contaminated food is classic for Staphylococcus aureus intoxication. This bacterium produces a heat-stable enterotoxin. Foods that are rich in protein and are handled and then left at room temperature, such as cream-filled pastries, custards, potato salad, and processed meats, are common vehicles for transmission. The toxin is pre-formed in the food, which is why the symptoms appear so quickly after ingestion. The emetic (vomiting) form of Bacillus cereus food poisoning (B) has a similar presentation and is associated with reheated rice, but S. aureus is classically linked to foods like pastries.

Question 45. A female engineer works 12–14 hours daily and subsists mainly on fast food with little to no intake of fruits or vegetables. Her hemoglobin level is 9 g/dL, mean corpuscular volume is 120 fL, and peripheral smear shows macrocytosis. What is the most likely diagnosis?

A. Vitamin B12 deficiency

B. Folic acid deficiency

C. Iron deficiency anemia

D. Combined Vitamin B12 and Folic acid deficiency

Correct answer: B

The patient presents with macrocytic anemia, as indicated by a low hemoglobin level (9 g/dL) and a high mean corpuscular volume (MCV of 120 fL). The key to the diagnosis is the dietary history. Folic acid (folate) is a B vitamin that is abundant in fresh fruits and leafy green vegetables. A diet completely devoid of these items, consisting only of fast food, is a classic cause of folic acid deficiency. Folate is essential for DNA synthesis, and its deficiency impairs the maturation of red blood cell precursors in the bone marrow, leading to the production of large, abnormal red cells (macrocytes). While vitamin B12 deficiency also causes macrocytic anemia, it is more commonly associated with vegan diets or malabsorption issues.

Question 46. Which of the following methods is most appropriate for the proper management and cleanup of a blood spill?

A. Ethyl Alcohol

B. Chlorhexidine

C. Formaldehyde

D. Sodium Hypochlorite

Correct answer: D

For the disinfection of surfaces contaminated with blood or other potentially infectious body fluids, the most recommended and widely used disinfectant is sodium hypochlorite (household bleach). It is a broad-spectrum, fast-acting disinfectant that is effective against viruses (including HIV and Hepatitis B), bacteria, and fungi. For cleaning blood spills, a 1 :10 dilution of bleach (approximately a 0.5% solution) is typically recommended. The area should be cleaned of visible organic matter first, then flooded with the disinfectant solution and allowed a sufficient contact time (e.g., 10 minutes) before being wiped clean. Alcohols are less effective in the presence of organic matter, and formaldehyde is a high-level disinfectant/sterilant not used for routine surface cleaning.

Question 47. A truck driver presents with a painless, well-defined ulcer on the penis along with inguinal lymphadenopathy. What is the best technique to demonstrate the motility of the most likely causative organism?

A. Dark field microscopy

B. Light microscopy

C. Fluorescent microscopy

D. Electron microscopy

Correct answer: A

The clinical presentation of a painless ulcer (chancre) on the genitals accompanied by regional lymphadenopathy is classic for primary syphilis, caused by the spirochete Treponema pallidum. This organism is a thin, spiral-shaped bacterium that is too narrow to be seen with a standard light microscope. The definitive method for visualizing the live spirochete directly from an ulcer exudate is dark-field microscopy. This technique uses a special condenser to illuminate the specimen from the side, so that only light scattered by the organism enters the objective lens. This makes the spirochetes appear as bright, motile spirals against a dark background, allowing for identification based on their characteristic corkscrew motility.

Question 48. Swab is discarded in which color bin

A. Yellow bag

B. Red bag

C. White bag

D. Blue bag

Correct answer: A

According to biomedical waste management guidelines, waste is segregated into different colored bins based on its nature and disposal method. Any item contaminated with human blood or body fluids, such as used cotton swabs, dressings, and plaster casts, is considered infectious or soiled waste. This category of waste must be discarded in the yellow bag. Waste collected in yellow bags is destined for incineration or deep burial to ensure the complete

destruction of potentially infectious pathogens. Red bags are for recyclable contaminated waste like plastics (syringes, catheters), white bags are for sharps (needles), and blue bags are for glass waste.

Question 49. A patient is suspected of having brucellosis, and a serum sample is tested using the standard agglutination test. The test is initially negative but turns positive after dilution of the serum. What is the most likely explanation for the initial negative result?

A. Prozone phenomenon

B. Postzone phenomenon

C. Complement inactivation

D. Antigen antibody complexes

Correct answer: A

This scenario describes the prozone phenomenon. This is a serological effect that occurs in agglutination tests when the concentration of antibodies in the patients serum is excessively high. This antibody excess interferes with the formation of the large antigen-antibody lattice networks that are necessary for visible agglutination to occur, leading to a false-negative result in undiluted or low-dilution samples. By serially diluting the serum, the antibody concentration is reduced to an optimal level, allowing for proper cross-linking and lattice formation, which then results in a positive test. This phenomenon is a well-known issue in agglutination tests for diseases like brucellosis and syphilis, necessitating the testing of multiple dilutions.

Question 50. A patient has been diagnosed with primary open-angle glaucoma (POAG). On taking history, it is noted that the patient is a known case of bronchial asthma. Which medication is the drug of choice for managing POAG in this patient?

A. Latanoprost

B. Gemeprost

C. Carboprost

D. Alprostadil

Correct answer: A

The management of Primary Open-Angle Glaucoma (POAG) in a patient with bronchial asthma requires careful consideration of medication side effects. Topical beta-blockers, such as timolol, are a common first-line treatment for POAG but are relatively contraindicated in patients with asthma because they can be absorbed systemically and cause bronchoconstriction by blocking beta-2 receptors in the lungs. Therefore, an alternative first-line agent is necessary. Prostaglandin analogs, such as Latanoprost, are considered the drug of choice in this scenario. Latanoprost effectively lowers intraocular pressure by increasing the uveoscleral outflow of aqueous humor. Crucially, it has minimal systemic side effects and does not affect the respiratory system, making it a safe and highly effective option for glaucoma patients with

co-existing asthma. The other options are also prostaglandins but are used for different indications (e.g., obstetrics, erectile dysfunction) and are not formulated as eye drops for glaucoma.

Question 51. A 3-year-old woman presents with loss of vision on the right side in both eyes, consistent with right homonymous hemianopia. What is the most likely underlying cause?

A. Injury to Left Optic Tract

B. Right occipital lobe lesion

C. Optic chiasma lesion

D. Right optic nerve lesion

Correct answer: A

A right homonymous hemianopia is a visual field defect where the patient loses vision in the right half of the visual field of both eyes. To understand its cause, one must trace the visual pathway. Light from the right visual field falls on the left half (nasal part of the right retina and temporal part of the left retina) of each eye. The fibers from the nasal retina of the right eye cross at the optic chiasm to join the fibers from the temporal retina of the left eye. These fibers then travel together in the left optic tract. Therefore, any lesion that damages the left optic tract, left optic radiation, or left visual cortex will cause a right homonymous hemianopia. A lesion of the right occipital lobe (B) would cause a left homonymous hemianopia.

Question 52. A child presents with a white pupillary reflex (leukocoria) and is treated with enucleation. Histopathological examination reveals Flexner–Wintersteiner rosettes. What is the most likely diagnosis?

A. Retinoblastoma

B. Rhabdomyosarcoma

C. Medulloblastoma

D. Astrocytoma

Correct answer: A

Leukocoria (a white pupillary reflex) in a child is a major red flag and is considered retinoblastoma until proven otherwise. Retinoblastoma is the most common intraocular malignancy of childhood. The definitive diagnosis is made by histopathology of the enucleated eye. The presence of Flexner-Wintersteiner rosettes is a highly characteristic and pathognomonic finding for retinoblastoma. These rosettes are specific structures formed by the tumor cells, consisting of a ring of cuboidal cells surrounding a central empty lumen. Their presence confirms the diagnosis. Rosettes can be seen in other tumors (like medulloblastoma), but in the context of an eye tumor presenting with leukocoria, they are diagnostic of retinoblastoma.

Question 53. A patient presents with a gradual decrease in vision and, on examination, is found to have dry eyes with a rough corneal surface. Deficiency of which nutrient or vitamin is most likely responsible for these findings?

A. Iron

B. Protein

C. Niacin

D. Retinoic Acid

Correct answer: D

The clinical signs of dry eyes (xerosis) and a rough corneal surface are indicative of xerophthalmia, a condition caused by severe Vitamin A deficiency. Vitamin A exists in several forms, including retinol, retinal, and retinoic acid. Retinoic acid is essential for the differentiation and maintenance of epithelial tissues, including the conjunctiva and cornea. In a deficient state, these tissues undergo squamous metaplasia and keratinization, leading to the loss of mucus-secreting goblet cells. This causes the conjunctiva and cornea to become dry, lusterless, and rough. If untreated, it can progress to corneal ulceration and blindness (keratomalacia). Therefore, a deficiency in the Vitamin A pathway (retinoic acid) is the cause.

Question 54. A young boy with a slender build and long fingers presents with reduced vision, and examination reveals lens subluxation. He is diagnosed with cystathionine synthase deficiency. Which amino acid supplementation is required for this patient?

A. Serine

B. Tyrosine

C. Methionine

D. Cysteine

Correct answer: D

The patient has homocystinuria, an inborn error of metabolism caused by a deficiency of the enzyme cystathionine beta-synthase. The clinical features described (thin build, long fingers - marfanoid habitus, and ectopia lentis - subluxation of the lens) are classic for this disorder. The deficient enzyme is responsible for converting homocysteine to cystathionine, which is a step in the pathway that synthesizes cysteine from methionine. Because of this enzymatic block, cysteine cannot be produced by the body and becomes a conditionally essential amino acid. Therefore, the patients diet must be supplemented with cysteine. Conversely,

Question 55. A 30-year-old man weighing 70 kg is found to have a serum sodium level of 120 mEq/L. Calculate the total sodium deficit in this patient.

A. 420 mEq

B. 840 mEq

C. 1400 mEq

D. 280 mEq

Correct answer: B

The sodium deficit can be calculated using a standard formula that considers the total body water (TBW) and the desired change in serum sodium concentration. The formula is :Sodium Deficit = Total Body Water (TBW) × (Desired Na+ - Measured Na+) First, we calculate the TBW, which is approximately 60% of the body weight in an adult male.

Question 56. A patient with hypertension, peripheral edema, and chronic kidney disease presents for treatment. Which medication would be the most appropriate choice for managing this condition?

A. Aliskiren

B. Chlorthalidone

C. Prazosin

D. Beta blocker

Correct answer: B

No explanation is available for this recall question yet.

Question 57. A 68-year-old man presents with cough and sputum production, bronchial breath sounds on examination, a respiratory rate of 20/min, blood urea level of 44 mg/dL, and blood pressure of 110/70 mmHg. What should be the next step in his management?

A. Home treatment (Rx)

B. Admit in ICU without mechanical ventilation (MV)

C. Admit in ICU with mechanical ventilation (MV)

D. Room admission

Correct answer: D

This patient has community-acquired pneumonia (CAP). To decide the site of care, a severity assessment score like CURB-65 is used. The CURB-65 criteria are : Confusion (not present), Urea >42 mg/dl (present, 44 mg/dl), Respiratory rate ≥30/min (not present, 20/min), Blood pressure (systolic <90 or diastolic ≤60 mmHg) (not present, 110/70), and age ≥65 years (present, 68 years). This patient scores 2 points (one for Urea and one for Age). A CURB-65 score of 2 indicates moderate severity pneumonia and warrants hospital admission for treatment with intravenous antibiotics and monitoring. However, the patient is not in respiratory failure (RR is normal) and is hemodynamically stable, so ICU admission is not required. Therefore, the appropriate next step is admission to a general medical ward (room admission). Home treatment is for low-risk patients (score 0-1).

Question 58. A patient presents with numbness of the fingertips and tight, thickened facial skin. Antinuclear antibody testing is positive with a nucleolar

immunofluorescence pattern. What is the most likely diagnosis?

A. Systemic sclerosis

B. Sjogrens syndrome

C. Systemic Lupus Erythematosus (SLE)

D. Rheumatoid Arthritis (RA)

Correct answer: A

The clinical presentation of numb fingertips (suggesting Raynauds phenomenon) and tight facial skin (sclerodactyly and masked facies) is highly characteristic of Systemic Sclerosis (scleroderma). This is an autoimmune connective tissue disease characterized by vasculopathy and progressive fibrosis of the skin and internal organs. The immunological findings further support this diagnosis. While Antinuclear Antibodies (ANA) are positive in many autoimmune diseases, certain immunofluorescence patterns are more specific. A nucleolar pattern on ANA testing is strongly associated with systemic sclerosis. It is often seen in patients who have specific autoantibodies like anti-Scl-70 (anti-topoisomerase I) or anti-fibrillarin, which are markers for the diffuse cutaneous form of the disease. This combination of clinical and serological findings is classic for systemic sclerosis.

Question 59. A hyperventilating patient has the following ABG values : pH=7.53 pCO2=20 mmHg, HCO3 = 26 mEq/L What is the most likely diagnosis?

A. Respiratory acidosis

B. Respiratory alkalosis

C. Metabolic acidosis

D. Metabolic alkalosis

Correct answer: B

To interpret this Arterial Blood Gas (ABG), we look at the pH, pCO2, and HCO3-

Question 60. A software engineer presents to the outpatient department with easy fatigability and reports prolonged computer use for 12–14 hours daily, frequent consumption of junk food, and minimal intake of fruits and vegetables. His complete blood count shows a hemoglobin level of 7 g/dL and an MCV of 120 fL. What is the most likely cause of his anemia?

A. Folate deficiency

B. Sideroblastic anemia

C. Cyanocobalamin deficiency

D. Acute blood loss

Correct answer: C

The patient has severe anemia (hemoglobin 7 g/dL) with a high mean corpuscular volume (MCV = 120 fL), which indicates macrocytic anemia. Macrocytic anemia is commonly caused by vitamin B12 (cyanocobalamin) deficiency or folate deficiency, both of which impair DNA

synthesis in developing red blood cells and lead to megaloblastic anemia.In this case, the key clues are the very high MCV and the patient’s poor dietary habits, including frequent junk food intake and minimal consumption of nutritious foods. Vitamin B12 deficiency is particularly associated with diets lacking animal products such as meat, eggs, and dairy, or with malabsorption conditions. When B12 levels are low, DNA synthesis in bone marrow cells becomes defective, resulting in the production of large, immature red blood cells (macrocytes).Unlike folate deficiency, vitamin B12 deficiency may also lead to neurological symptoms, although these may not appear early.Other options are less likely:1. Sideroblastic anemia usually produces microcytic anemia.2. Acute blood loss causes normocytic anemia.Thus, the most likely cause is cyanocobalamin (vitamin B12) deficiency.

Question 61. Which of the following is false about pheochromocytoma?

A. Propranolol is the preferred drug for hypertension control

B. Surgery is the treatment of choice

C. VMA (vanillylmandelic acid) is a diagnostic test

D. Catecholamines are a diagnostic test

Correct answer: A

The statement that propranolol is the preferred drug for hypertension control is false and represents a dangerous misunderstanding of pheochromocytoma management. Pheochromocytomas are tumors that secrete excessive catecholamines (epinephrine and norepinephrine), which act on both alpha and beta-adrenergic receptors, causing severe hypertension and tachycardia. If a beta-blocker like propranolol is given alone before alpha-blockade, it will block the beta-2 mediated vasodilation. This leaves the alpha-1 mediated vasoconstriction unopposed, which can lead to a paradoxical and life-threatening hypertensive crisis. The correct pharmacological management requires initiating an alpha-blocker (like phenoxybenzamine or prazosin) first to control blood pressure, followed by a beta-blocker if tachycardia persists. The definitive treatment is surgical resection of the tumor (B), and diagnosis is confirmed by measuring plasma or urinary catecholamines and their metabolites like VMA (C, D).

Question 62. A 50-year-old patient with renal insufficiency has recently undergone pyelolithotomy. Which analgesic drug would be the most appropriate choice for postoperative pain management in this patient?

A. Diclofenac sodium

B. Naproxen

C. Indomethacin

D. Acetaminophen

Correct answer: D

This patient requires post-operative pain relief but has pre-existing renal insufficiency.

Nonsteroidal anti-inflammatory drugs (NSAIDs), such as diclofenac, naproxen, and indomethacin, must be used with extreme

Question 63. A patient presents with breathlessness and wheezing, has an absolute eosinophil count of 500 cells/µL, and a chest X-ray showing a miliary pattern. What is the most likely diagnosis?

A. Miliary Tuberculosis (TB)

B. Tropical pulmonary eosinophilia

C. Bronchial asthma

D. Hypersensitivity pneumonitis

Correct answer: B

Tropical Pulmonary Eosinophilia (TPE) is a specific clinical manifestation of an occult filarial infection (usually Wuchereria bancrofti or Brugia malayi). It is a hypersensitivity reaction to the microfilariae that become trapped in the lungs. The classic clinical presentation includes paroxysmal coughing and wheezing, often worse at night, breathlessness, and a very high peripheral eosinophil count (typically >3000 cells/µL, though the value given is low). Chest X-rays can show a variety of findings, including diffuse miliary mottling or reticulonodular infiltrates. While the eosinophil count in the question is lower than typical, the combination of respiratory symptoms (wheezing), a miliary pattern on X-ray, and eosinophilia in a patient from a tropical region strongly points towards TPE over the other diagnoses. Miliary TB does not typically cause wheezing or significant eosinophilia.

Question 64. A patient presents with shortness of breath and generalized weakness. Cardiac auscultation reveals a mid-diastolic murmur, and jugular venous pulse examination shows a prominent a wave. What is the most likely diagnosis?

A. Tricuspid Stenosis (TS)

B. Mitral Stenosis (MS)

C. Mitral Regurgitation (MR)

D. Tricuspid Regurgitation (TR)

Correct answer: A

The combination of a mid-diastolic murmur and a prominent a wave in the jugular venous pulse (JVP) is the pathognomonic finding for Tricuspid Stenosis (TS). The murmur is generated by turbulent blood flow across the narrowed tricuspid valve during ventricular filling. The a wave in the JVP corresponds to right atrial contraction. In TS, the right atrium must contract with much greater force to push blood through the stenotic valve, leading to a markedly elevated right atrial pressure and a visible, giant a wave in the neck veins. The resulting backup of pressure and reduced cardiac output cause the symptoms of generalized weakness and breathing difficulty (due to systemic venous congestion and low output). Mitral stenosis (B) also causes a mid-diastolic murmur but affects the JVP differently, if at all.

Question 65. A patient presents with confusion, altered behavior, and signs of central nervous system involvement such as disorientation and lethargy. Laboratory investigations show a urine osmolality of 1000 mOsm/kg and a plasma osmolality of 250 mOsm/kg. What is the most likely underlying electrolyte disturbance?

A. Hyponatremia

B. Hypernatremia

C. Hypokalemia

D. Hyperkalemia

Correct answer: A

This patient has the laboratory triad characteristic of the Syndrome of Inappropriate Antidiuretic Hormone (SIADH). The key findings are : 1) low plasma osmolality (<275 mOsm/kg), indicating an excess of water relative to solute in the blood; 2) inappropriately concentrated urine (urine osmolality > 100 mOsm/kg, here it is 1000); and 3) euvolemia (clinically). The excess water retention driven by inappropriate ADH action dilutes the sodium in the extracellular fluid, leading to euvolemic

Question 66. A patient with known HIV infection presents with fever, productive cough, and sputum. Clinical examination shows consolidation in the right infra scapular region, and chest X-ray reveals right lower lobe consolidation. The CD4 count is 55 cells/µL. What is the most common cause of this presentation?

A. Staphylococcus aureus

B. Streptococcus pneumoniae

C. Mycoplasma pneumoniae

D. Pneumocystis jiroveci

Correct answer: B

No explanation is available for this recall question yet.

Question 67. A patient is found to have a mediastinal mass and is diagnosed with pure red cell aplasia. What is the most likely underlying cause of this association?

A. Bronchogenic carcinoma

B. Non-Hodgkin Lymphoma

C. Thymic neoplasia

D. T-cell Acute Lymphoblastic Leukemia

Correct answer: C

Pure red cell aplasia (PRCA) is a rare disorder characterized by a severe normocytic, normochromic anemia with marked reticulocytopenia and a near-complete absence of red blood cell precursors (erythroblasts) in the bone marrow. While it can be idiopathic or associated with various conditions, there is a well-established paraneoplastic association between PRCA and thymic neoplasia, specifically thymoma. Approximately 5-10% of patients

with thymoma develop PRCA, and conversely, about 30-50% of adult patients with PRCA are found to have an underlying thymoma. The thymus is located in the anterior mediastinum, which would appear as a mediastinal mass on imaging. The exact mechanism is thought to be autoimmune, with T-cells generated in

Question 68. After admitting a road traffic accident (RTA) case, blood is spilled on the hospital floor. Which disinfectant is most appropriate for cleaning and disinfecting the affected area?

A. Sodium Hypochlorite

B. Ethyl alcohol

C. Formaldehyde

D. Chlorhexidine

Correct answer: A

For disinfecting surfaces contaminated with blood spills, which are potentially infectious with blood-borne pathogens like HIV and Hepatitis B, the recommended disinfectant is sodium hypochlorite (household bleach). It is a potent, broad-spectrum disinfectant that is readily available and inexpensive. The standard protocol for cleaning a blood spill involves first covering the spill with absorbent material, then cleaning the area, and finally disinfecting the surface with a freshly prepared 1 :10 dilution of bleach (a 0.5% solution), ensuring adequate contact time (at least 10 minutes) to effectively kill any pathogens. Ethyl alcohol is less effective in the presence of organic material, and formaldehyde is a high-level disinfectant not used for routine surface decontamination.

Question 69. An outbreak of cases presenting with buboes has been reported in a community. Which vector is responsible for transmitting the causative organism?

A. Xenopsylla [Rat Flea]

B. Tse tse fly

C. Human flea

D. Sand fly

Correct answer: A

An outbreak of buboes—painfully swollen lymph nodes—is the hallmark of bubonic plague. The causative agent of plague is the bacterium Yersinia pestis. The primary zoonotic cycle of this disease involves rodents as the reservoir and fleas as the vectors. The most important vector for transmitting the infection from infected rodents to humans is the oriental rat flea, Xenopsylla cheopis. When the flea takes a blood meal from an infected rat, the bacteria multiply and block its gut. The flea then regurgitates the bacteria into the bite wound of a new host, which can be another rodent or a human, thereby transmitting the disease.

Question 70. An 11-year-old girl presents with fever and sore throat, and a throat

swab is collected for culture. After processing, into which biomedical waste disposal bag should the swab be discarded?

A. Yellow bag

B. Red bag

C. Blue bag

D. White bag

Correct answer: A

According to biomedical waste management rules, all microbiological and biotechnology waste, including discarded culture plates, stocks of infectious agents, and items contaminated from laboratory work (like the used throat swab), must be segregated and disposed of in the yellow bag. This category of waste is considered highly infectious and requires treatment by incineration or autoclaving followed by shredding to ensure complete sterilization before final disposal. This prevents the spread of potentially pathogenic microorganisms into the environment. The red bag is for recyclable

Question 71. Which of the following is not included in the Global Hunger Index?

A. Under 5 mortality rate

B. Infant Mortality Rate (IMR)

C. Child mortality rate

D. Child undernutrition

Correct answer: B

The Global Hunger Index (GHI) is a tool designed to measure and track hunger at global, regional, and national levels. It is calculated using four component indicators :1. Undernourishment : The proportion of the population whose caloric intake is insufficient.2. Child Wasting : The proportion of children under five who have low weight for their height.3. Child Stunting : The proportion of children under five who have low height for their age. (Wasting and Stunting together represent child undernutrition).4. Child Mortality : The mortality rate of children under the age of five.The Infant Mortality Rate (IMR), which measures deaths in the first year of life, is not a direct component of the GHI calculation.

Question 72. A child presents with bluish-white spots in the oral cavity followed by the development of a rash. What type of genome does the most likely causative organism possess?

A. Enveloped virus with single-stranded RNA

B. Naked virus with single-stranded RNA

C. Double stranded Naked RNA

D. Double stranded Enveloped RNA

Correct answer: A

The clinical finding of bluish-white spots in the mouth (Kopliks spots) followed by a rash is

pathognomonic for measles. The causative agent is the measles virus (rubeola virus), which is a member of the Paramyxoviridae family. The measles virus is an enveloped virus, meaning its nucleocapsid is surrounded by a lipid membrane. Its genetic material is a single-stranded, negative-sense RNA genome. Therefore, the

Question 73. A 16-month-old child weighing 8 kg is evaluated using a growth chart, and the weight is found to lie between the median (standard) and −2 standard deviations. What should be the appropriate next step in managing this child?

A. Reassure the mother that the child is within normal nutritional status.

B. Identify mild malnutrition and initiate homebased nutritional support.

C. Recognize moderate malnutrition and provide feeding education to the mother.

D. Diagnose severe malnutrition and refer to a Nutritional Rehabilitation center

Correct answer: A

According to the World Health Organization (WHO) growth standards, a childs nutritional status is assessed by plotting their measurements on a growth chart and comparing them to the reference populations standard deviations (SD) or Z-scores. A weight-for-age measurement that falls between -2 SD and +2 SD from the median is considered within the normal range. Since this childs weight is between the median and -2 SD, he is classified as having a normal nutritional status. Therefore, the appropriate next step is to reassure the mother that the childs growth is currently adequate and to continue with routine health monitoring and appropriate feeding practices. Moderate malnutrition is defined as between -2 and -3 SD, and severe malnutrition is below -3 SD.

Question 74. An anganwadi teacher records the weight and height of a 4-year-old child and evaluates the childs height-for-age parameter. What does this measurement reflect or indicate?

A. Chronic malnutrition

B. Acute malnutrition

C. Recent malnutrition

D. No malnutrition

Correct answer: A

No explanation is available for this recall question yet.

Question 75. Following Diwali, an air quality index (AQI) reading of 470 is recorded on the pollution chart. What category or level of air pollution does this value represent?

A. Poor

B. Very poor

C. Severe

D. Moderate

Correct answer: C

The Air Quality Index (AQI) is a scale used to report the level of air pollution and its associated health risks. The scale is divided into several categories. According to the index used in India, an AQI value in the range of 401 to 500 is classified as Severe. This level of air pollution is considered hazardous and can seriously impact the health of the entire population, including healthy individuals, and cause significant distress to those with existing respiratory or cardiovascular diseases. An AQI of 470 falls squarely within this Severe category, indicating a serious public health concern, which is common in many Indian cities post-Diwali.

Question 76. A researcher evaluates the relationship between C-reactive protein (CRP) levels and the risk of myocardial infarction or cancer by plotting four relative risk values (0.5, 1.5, 1.7, and 1.8). What inference can be drawn from these findings?

A. CRP increase disease/cancer risk

B. CRP has no relationship

C. CRP decreases & disease decreases

D. No association in first interval

Correct answer: A

Relative Risk (RR) is a measure of the association between an exposure and an outcome. An RR of 1.0 indicates no association. An RR greater than 1.0 indicates that the exposure increases the risk of the outcome. An RR less than 1.0 indicates a protective effect. In this study, three of the four plotted RR values (1.5, 1.7, 1.8) are greater than 1.0. This suggests that as C-Reactive Protein (CRP) levels rise, the risk of myocardial infarction (MI) or cancer also increases. The single value of 0.5 might correspond to a very low CRP level acting as a reference or a protective category. However, the overall trend shown by the majority of the data points indicates a positive association, meaning an increase in CRP is associated with an increased disease risk.

Question 77. A child with known HIV infection has a CD4 count of 50 cells/µL. Which of the following vaccines should be avoided in this child?

A. MMR

B. TT

C. DPT

D. BCG

Correct answer: D

The child has HIV infection with a CD4 count of 50 cells/µL, which indicates severe immunosuppression. In such patients, the immune system is unable to control infections effectively. Because of this, live vaccines are generally avoided, as they may cause disease in immuno compromised individuals.BCG vaccine is a live attenuated vaccine prepared from

Mycobacterium bovis. It is normally given at birth to protect against severe forms of Tuberculosis such as miliary TB and tuberculous meningitis. However, in children with severe HIV infection (very low CD4 counts), BCG vaccination can lead to disseminated BCG infection, which can be life-threatening.Other vaccines listed are generally safe because they are inactivated or toxoid vaccines:1. TT (Tetanus toxoid) – inactivated toxoid vaccine2. DPT – contains diphtheria and tetanus toxoids with killed pertussis component

Question 78. Under the school health program, which vaccine should be administered to a 10-year-old school-going child?

A. BCG

B. MMR

C. TT,Td

D. DPT

Correct answer: C

According to Indias National Immunization Schedule, specific booster vaccines are administered to older children to maintain immunity. At the age of 10 years, a child should receive a booster dose of the Td vaccine. The Td vaccine protects against Tetanus and Diphtheria. It is the adult formulation, which contains a reduced dose of the diphtheria component compared to the pediatric DPT vaccine. This booster is repeated at 16 years of age. The other vaccines are given earlier in childhood : BCG at birth, MMR at 9-12 months with a second dose at 16-24 months, and the final DPT booster at 5 years of age.

Question 79. During an outbreak of encephalitis in a community, according to the Universal Immunization Schedule, what is the route of administration of the vaccine used to prevent this infection?

A. Live & subcutaneous

B. Killed & subcutaneous

C. Live & intramuscular

D. Killed & intramuscular

Correct answer: D

During outbreaks of Japanese Encephalitis, vaccination is an important preventive measure under the Universal Immunization Programme. Japanese Encephalitis (JE) is a mosquito-borne viral infection caused by the Japanese encephalitis virus, which primarily affects children and can lead to severe brain inflammation (encephalitis) with high mortality and neurological complications.

Question 80. Low air velocity will be measured by

A. Kata thermometer

B. Globe thermometer

C. Wet thermometer

D. Beckmans thermometer

Correct answer: A

The Kata thermometer is a specific instrument designed to measure the cooling power of the air, which is influenced by both air temperature and air movement. It is particularly useful for measuring low air velocities (below 1 m/s), such as those found in indoor environments, which are too low to be accurately measured by standard anemometers. The instrument is an alcohol thermometer with a large bulb that is heated to a specific temperature and then timed as it cools between two set points. The rate of cooling is used to calculate the air velocity. The globe thermometer measures radiant heat, and the wet-bulb thermometer measures humidity.

Question 81. At what level of the healthcare system is the School Health Service generally implemented or delivered?

A. District

B. Subcentre

C. Subdistrict

D. PHC

Correct answer: D

No explanation is available for this recall question yet.

Question 82. A pregnant woman living in the same household as her niece, who has developed varicella, is tested and found to have no detectable serum antibodies against varicella. What does this finding indicate?

A. She is susceptible to zoster

B. She is susceptible to chickenpox

C. She is immune to chicken pox

D. She is immune to zoster

Correct answer: B

Varicella-zoster virus (VZV) causes two distinct clinical entities : chickenpox (varicella) as the primary infection, and shingles (zoster) as the reactivation of the latent virus. The presence of serum antibodies (IgG) against VZV indicates past infection and confers immunity. This patient tested negative for varicella antibodies. This means she has no immunity to the virus and is therefore susceptible to a primary infection, which is chickenpox. This is a high-risk situation, as primary varicella infection during pregnancy can pose serious risks to both the mother and the fetus (Congenital Varicella Syndrome). She is a candidate for post-exposure prophylaxis with Varicella-Zoster Immune Globulin (VZIG).

Question 83. A child is being taught the sequential steps involved in proper hand hygiene. Which learning domain is primarily engaged in this process?

A. Cognitive

B. Psychomotor

C. Affective

D. Affective & cognitive

Correct answer: B

Learning can be categorized into three domains : cognitive, affective, and psychomotor.1. Cognitive domain involves knowledge and intellectual skills (e.g., knowing why hand washing is important).2. Affective domain involves feelings, attitudes, and values (e.g., believing that hand washing is a good practice).3. Psychomotor domain involves physical skills, coordination, and the use of motor skills.4. Learning the specific steps of hand hygiene—rubbing hands together, interlacing fingers, washing thumbs, etc.—is a physical skill that requires practice and coordination. Therefore, this type of learning falls primarily within the psychomotor domain.

Question 84. What is the SI unit used to measure illuminance, that is, the brightness of light falling on a surface?

A. Candella

B. Luminance

C. Lumen

D. Lux

Correct answer: D

In photometry, several units are used to describe light.1. Luminous intensity, the light emitted by a source in a particular direction, is measured in candela (cd), which is an SI base unit.2. Luminous flux, the total amount of visible light emitted by a source, is measured in lumens (lm).3. Illuminance is the measure of the total luminous flux incident on a surface, per unit area. It quantifies how much the incident light illuminates the surface. The SI unit for illuminance is the lux (lx), which is defined as one lumen per square meter (lm/m^2).

Question 85. When evaluating the functioning of a health center, which factor is the most important determinant for assessing the quality of clinical management?

A. Input

B. Process

C. Structure

D. Outcome

Correct answer: D

Evaluation of health services is commonly based on the Donabedian model, which assesses quality of care using three components: structure, process, and outcome.1. Structure refers to the resources and infrastructure available in a health center, such as buildings, equipment, staff, and facilities. While these factors are important, they only indicate the capacity to deliver care, not the actual effectiveness of treatment.2. Process involves the methods and procedures

used in delivering care, including diagnosis, treatment protocols, and patient management practices. It evaluates whether the correct clinical procedures are being followed.3. Outcome, however, is considered the most important determinant of quality of clinical management. It reflects the actual results of healthcare interventions, such as improvement in patient health, recovery rates, reduction in complications, patient satisfaction, and mortality rates. Outcomes directly show whether the treatment provided has been effective in improving patient health.Therefore, when evaluating the functioning of a health center, patient outcomes provide the most reliable measure of the quality and effectiveness of clinical management, making outcome the best indicator.

Question 86. A group of individuals consumed patties late at night and developed repeated episodes of vomiting the following morning. What is the most likely cause of this illness?

A. Staphylococcus aureus

B. Bacillus cereus

C. Escherichia coli

D. Lactobacillus

Correct answer: A

No explanation is available for this recall question yet.

Question 87. Which intestinal receptor or transporter mediates glucose absorption when Oral Rehydration Solution (ORS) is administered?

A. SGLT-1

B. SGLT-2

C. GLP-1

D. GLUT-1

Correct answer: A

The therapeutic principle of Oral Rehydration Solution (ORS) relies on the co-transport of sodium and glucose in the small intestine. This process is mediated by the Sodium-Glucose Linked Transporter 1 (SGLT-1), located on the apical membrane of enterocytes. SGLT-1 simultaneously transports one molecule of sodium and one molecule of glucose from the intestinal lumen into the cell. This transport is crucial because it creates an osmotic gradient that drives the passive absorption of water from the intestine into the bloodstream, thereby combating dehydration. This mechanism remains intact even during most diarrheal illnesses. SGLT-2 is found in the kidneys, and GLUT-1 is a different type of glucose transporter.

Question 88. A 55-year-old patient from Chhattisgarh presents with gradually progressive muscle weakness, stiffness of both lower limbs, and eventual complete paralysis. What is the most important aspect of history that should be elicited in this

case?

A. Dietary history

B. Medical history

C. History of present illness

D. Socioeconomic history

Correct answer: A

The clinical presentation of progressive spastic paraparesis (stiffness and weakness of the lower limbs) in a person from an area like Chhattisgarh should raise strong suspicion of neurolathyrism. This is a crippling neurological disorder caused by the prolonged consumption of the grass pea, Lathyrus sativus, which contains the neurotoxin

Question 89. A girl has been experiencing recurrent yeast infections and respiratory viral infections since the age of 3 months. While evaluating her immune status, which of the following vaccines would be contraindicated in this child?

A. TT/Td (Tetanus toxoid)

B. Measles/MMR

C. DPT (Diphtheria, Pertussis, Tetanus)

D. Killed IPV (Inactivated Poliovirus Vaccine)

Correct answer: B

The history of recurrent yeast (fungal) and viral infections beginning in early infancy strongly suggests a primary immunodeficiency, specifically a T-cell or combined T-cell and B-cell immunodeficiency (e.g., SCID). In patients with severe defects in cellular immunity, live attenuated vaccines are absolutely contraindicated. This is because their compromised immune system cannot mount an effective response to even a weakened pathogen, leading to a risk of disseminated and potentially fatal vaccine-induced disease. The Measles, Mumps, and Rubella (MMR) vaccine contains live attenuated viruses. Therefore, it should be avoided in this child. In contrast, toxoid vaccines (TT/Td, DPT) and killed/inactivated vaccines (IPV) are generally safe.

Question 90. A farmer presents with a skin rash that becomes worse on sun exposure and redness of the tongue, and maize is his staple diet. Which vitamin deficiency is most likely responsible for these symptoms?

A. Niacin deficiency

B. Folic acid deficiency

C. Vitamin C deficiency

D. Vitamin K deficiency

Correct answer: A

This clinical picture is classic for pellagra, the disease resulting from niacin (Vitamin B3) deficiency. The key symptoms are a photosensitive dermatitis (a rash that worsens with sun exposure) and glossitis (redness of the tongue). A diet where maize (corn) is the staple is a

major risk factor, as the niacin in maize is not bioavailable, and maize is also deficient in tryptophan, the precursor for endogenous niacin

Question 91. A child who has undergone tonsillectomy develops postoperative bleeding while resting in the ward. What is the most appropriate immediate step in management?

A. Take to OT, remove the clot & re-ligation

B. Take to OT & pressure packing

C. Cautery

D. Conservative management

Correct answer: A

Post-tonsillectomy hemorrhage is a serious and potentially life-threatening complication that requires immediate and definitive management. While minor oozing can sometimes be managed conservatively, active bleeding in a child warrants returning the patient to the operating theater (OT). Once in the OT and under general anesthesia, the first and most crucial step is to remove all blood clots from the tonsillar fossa. A clot can mask the underlying bleeding vessel and prevent it from retracting and constricting. After the clot is evacuated, the specific bleeding point can be identified and controlled, usually by cauterization or re-ligation with sutures. Simple pressure packing is often insufficient for arterial bleeding.

Question 92. A 35-year-old man presents with epistaxis, and conservative measures to control the bleeding have failed. What should be the next step in the management of this patient?

A. Endoscopic sphenopalatine artery ligation

B. Internal carotid artery (ICA) ligation

C. External carotid artery (ECA) ligation

D. Maxillary artery ligation

Correct answer: A

When conservative measures like anterior and posterior nasal packing fail to control severe epistaxis (nosebleed), surgical intervention is required. The vast majority of posterior epistaxis originates from branches of the sphenopalatine artery (SPA), which is the terminal branch of the maxillary artery. The modern gold standard procedure for managing intractable posterior epistaxis is endoscopic sphenopalatine artery ligation. This minimally invasive procedure allows for direct visualization of the SPA as it exits the sphenopalatine foramen, enabling

Question 93. A woman presents to the ENT outpatient department with nasal obstruction. Examination reveals greenish-black crusts covering the nasal turbinates and septum, along with marked anosmia. What additional clinical sign is most likely to be observed in this condition?

A. Polyp

B. Hypertrophied inferior turbinate

C. Roomy nasal cavity

D. Foreign Body

Correct answer: C

This clinical picture is classic for atrophic rhinitis (ozena). This is a chronic nasal disease characterized by progressive atrophy (wasting away) of the nasal mucosa and the underlying turbinate bones. This atrophy leads to a paradoxically wide or roomy nasal cavity, despite the patients complaint of nasal obstruction (which is caused by the crusts). Other key features are the formation of foul-smelling, greenish-black crusts within the nose and anosmia (loss of smell). The term merciful anosmia is used because the patient is unaware of the fetid odor emanating from their own nose. The other options are incorrect; polyps

Question 94. A patient is diagnosed with a common bile duct stone two years after undergoing cholecystectomy. What type of stone is most likely responsible for this finding?

A. Primary

B. Secondary

C. Tertiary

D. Retained stone

Correct answer: A

Stones in the common bile duct (choledocholithiasis) are classified based on their origin and timing of discovery. A retained stone is a stone that was present in the bile duct at the time of cholecystectomy but was missed and is discovered in the early postoperative period (usually within 2 years). A secondary stone is a stone that originated in the gallbladder and migrated into the common bile duct. A primary stone is one that forms de novo within the bile ducts themselves, usually in the setting of biliary stasis or infection. A stone that is discovered more than two years after a cholecystectomy is, by definition, considered to be a primary CBD stone. Since the gallbladder has been removed, the stone could not have migrated from there.

Question 95. In which condition is gas under the diaphragm most commonly seen on imaging?

A. Viscus perforation

B. Liver abscess

C. Spontaneous rupture of oesophagus

D. Empyema Thorax

Correct answer: A

The presence of free air in the peritoneal cavity, which accumulates under the diaphragm when the patient is upright, is known as pneumoperitoneum. On an upright chest or abdominal X-ray,

this appears as a crescent-shaped lucency beneath one or both hemidiaphragms. The most common cause of pneumoperitoneum is the perforation of a hollow viscus in the gastrointestinal tract, most frequently a perforated peptic ulcer (gastric or duodenal) or a perforated diverticulum. The air from within the GI tract escapes into the abdominal cavity. This is a surgical emergency requiring immediate intervention. While a gas-forming liver abscess can produce gas, it is typically contained within the abscess cavity and does not represent free intraperitoneal air.

Question 96. A patient with a contusion in the left hypochondrium presents with hypotension (systolic blood pressure of 0 mm Hg) and tachycardia (pulse rate of 10 beats per minute). What is the next best step in management?

A. FAST

B. CECT Abdomen

C. DPL

D. Abdomen X-ray

Correct answer: A

This patient has sustained blunt abdominal trauma (contusion to the left hypochondrium, the site of the spleen) and is in Class III hemorrhagic shock, as indicated by the hypotension (SBP 70 mmHg) and tachycardia (pulse 110 bpm). He is hemodynamically unstable. In an unstable trauma patient, the immediate priority is to determine if the cause of the shock is intra-abdominal hemorrhage. The Focused Assessment with Sonography for Trauma (FAST) exam is the rapid, non-invasive, bedside diagnostic tool of choice in this situation. The FAST scan can quickly identify the presence of free fluid (blood) in the peritoneal cavity (e.g., in the splenorenal or

Question 97. A patient develops swelling of the upper limb following a modified radical mastectomy. What is the most likely cause of this complication?

A. Upper limb Lymphedema

B. Angiosarcoma

C. Recurrence

D. Metastasis

Correct answer: A

A modified radical mastectomy (MRM) is a surgical procedure for breast cancer that involves the removal of the entire breast tissue, nipple-areolar complex, and the axillary lymph nodes. The removal of the axillary lymph nodes disrupts the primary lymphatic drainage pathway from the ipsilateral arm. This disruption can lead to impaired drainage of lymphatic fluid, causing it to accumulate in the interstitial tissues of the arm. The resulting chronic, progressive swelling is known as secondary lymphedema. It is one of the most common and troublesome long-term complications following axillary lymph node dissection. While recurrence or metastasis could

cause swelling, diffuse limb lymphedema is the most frequent cause in this post-operative setting. Angiosarcoma (Stewart-Treves

Question 98. Which surgical repair technique is most commonly used for the treatment of a direct inguinal hernia?

A. Lichtenstein repair

B. Bassinis repair

C. Herniotomy

D. All

Correct answer: A

The Lichtenstein repair is currently the most widely performed open surgical technique for inguinal hernias worldwide and is considered the gold standard for tension-free repair. The procedure involves reinforcing the weak posterior wall of the inguinal canal (Hesselbachs triangle) with a synthetic, non-absorbable mesh. The mesh is sutured to the inguinal ligament, conjoint tendon, and other surrounding structures, creating a durable, tension-free barrier that prevents hernial recurrence. Its popularity stems from its technical simplicity, low recurrence rates, and the fact that it can be performed under local anesthesia. Bassinis repair is a historical tension repair that has higher recurrence rates. Herniotomy alone (excision of the sac) is typically only sufficient for pediatric inguinal hernias.

Question 99. A patient develops breathlessness, hypotension, and reduced air entry on the right side of the chest following a road traffic accident. What should be the next immediate step in management?

A. Needle insertion at 2nd ICS in midclavicular line (MCL)

B. Needle insertion at 5th ICS in mid-axillary line

C. Fluid resuscitation using wide bore cannula

D. Wide bore needle decompression

Correct answer: A

This patients presentation following chest trauma—unilateral decreased air entry, breathlessness, and hypotension—is the classic triad for a tension pneumothorax. This is a life-threatening emergency where air enters the

Question 100. Following a total thyroidectomy, the surgeon is unable to extubate the patient, who develops cyanosis and signs of respiratory distress. What is the most likely reason for the failure to extubate in this situation?

A. Bilateral recurrent laryngeal nerve palsy

B. Unilateral recurrent laryngeal nerve palsy

C. Hemorrhage

D. Supra laryngeal nerve palsy

Correct answer: A

The recurrent laryngeal nerves (RLN) innervate all the intrinsic muscles of the larynx except the cricothyroid. They are responsible for abduction (opening) and adduction (closing) of the vocal cords. During a total thyroidectomy, these nerves are at risk of injury. While a unilateral RLN injury causes hoarseness, an acute bilateral recurrent laryngeal nerve palsy is a surgical emergency. The paralysis of both vocal cords in the paramedian position results in severe glottic obstruction, making it impossible for the patient to breathe adequately once the endotracheal tube is removed. This leads to immediate stridor, respiratory distress, and cyanosis, making extubation impossible. This situation requires an immediate surgical airway (tracheostomy). A hemorrhage would cause a visible neck hematoma and tracheal compression, which is another possibility, but bilateral RLN palsy is the classic cause of post-extubation stridor.

Question 101. Asymptomatic varicose veins are classified under which category of the CEAP classification system?

A. C2a

B. C2b

C. C3a

D. C3b

Correct answer: A

The CEAP (Clinical, Etiological, Anatomical, Pathophysiological) classification is used to standardize the description of chronic venous disorders. The C or Clinical component describes the signs of the disease.C2 is the classification for the presence of varicose veins.This category is further modified by a subscript a for asymptomatic or s for symptomatic. The question specifies asymptomatic varicose veins. While the options use a and b, a is the standard descriptor for asymptomatic. Therefore, the correct classification is C2a. C3 indicates the presence of edema. The subscripts a and b are not standardly used with C3 in the way they are with C2. The patient has visible varicose veins (C2) but no symptoms like pain, aching, or swelling, hence the a modifier.

Question 102. A 0-year-old man is diagnosed with antral gastric carcinoma that has extended to the head of the pancreas and shows multiple small metastases in the right lobe of the liver. What is the most appropriate treatment strategy for this patient?

A. Whipples surgery

B. Gastrectomy + Right lobectomy

C. Gastrojejunostomy

D. Palliative care

Correct answer: D

This patient has Stage IV, metastatic gastric cancer. The cancer has spread locally to involve the head of the pancreas and, more importantly, has spread distantly to the liver (liver metastases). The presence of distant metastases makes the cancer incurable by surgery. Major surgical resections like a Whipples procedure or a gastrectomy with lobectomy are curative-intent surgeries and are contraindicated in the setting of metastatic disease, as they would

Question 103. Which nerve is most frequently at risk of injury during surgery of the submandibular gland?

A. Lingual nerve

B. Inferior alveolar nerve

C. Hypoglossal nerve

D. Nerve to mylohyoid

Correct answer: A

During submandibular gland surgery (submandibular gland excision), the lingual nerve is the nerve most frequently at risk of injury. The Lingual nerve is a branch of the mandibular division of the trigeminal nerve (CN V3) and carries general sensory fibers from the anterior two-thirds of the tongue. It also carries taste fibers from the chorda tympani (branch of facial nerve) and parasympathetic fibers to the submandibular and sublingual glands.Anatomically, the lingual nerve lies close to the submandibular gland and the submandibular (Wharton’s) duct. During gland excision, particularly when the surgeon dissects around the duct and deep part of the gland, the lingual nerve may be stretched, compressed, or accidentally injured.Damage to the lingual nerve can result in loss of sensation in the anterior two-thirds of the tongue, loss of taste, and reduced salivary secretion from the submandibular and sublingual glands.Other nerves like the hypoglossal nerve are also nearby but are less commonly injured compared with the lingual nerve.Therefore, the nerve most frequently at risk is the lingual nerve.

Question 104. An 5-year-old male with prostate cancer, Gleason score of , and PSA< ng/mL. What is the best management approach?

A. TURP

B. Radiation

C. Radical prostatectomy

D. Keep on active surveillance

Correct answer: D

No explanation is available for this recall question yet.

Question 105. A 5-year-old man sustains a straddle injury in a road traffic accident and presents to the emergency department with blood visible at the urethral meatus. What is the next appropriate step in his management?

A. Insert Foley catheter

B. Perform suprapubic catheterization (SPC) and drain the urine

C. Perform retrograde urethrogram (RUG)

D. Obtain a contrast-enhanced CT (CECT) of the pelvis

Correct answer: C

The triad of a pelvic fracture mechanism (straddle injury), blood at the urethral meatus, and inability to void is highly suspicious for a urethral injury. In this situation, attempting to blindly insert a Foley catheter is absolutely contraindicated as it can convert a partial urethral tear into a complete one and introduce infection. The correct and mandatory next diagnostic step is to perform a retrograde urethrogram (RUG). This procedure involves injecting contrast dye into the urethra under fluoroscopy to visualize its integrity. Extravasation of contrast from the urethra will confirm the presence and location of the injury. Based on the findings of the RUG, a decision can then be made regarding bladder drainage (e.g., carefully placed Foley or a suprapubic catheter).

Question 106. What is the typical metabolic abnormality seen in an infant diagnosed with congenital hypertrophic pyloric stenosis (CHPS)?

A. Hyperchloremic hypernatremic metabolic alkalosis

B. Hypochloremic hypernatremic metabolic acidosis

C. Hypochloremic hyponatremic metabolic alkalosis

D. Hyperchloremic hyponatremic metabolic alkalosis

Correct answer: C

Congenital Hypertrophic Pyloric Stenosis (CHPS) causes gastric outlet obstruction, leading to persistent, non-bilious, projectile vomiting. The vomitus contains gastric juice, which is rich in hydrochloric acid (HCl) and potassium chloride (KCl). The persistent loss of these substances leads to a very characteristic electrolyte and acid-base disturbance. The loss of hydrogen ions (H+) results in metabolic alkalosis. The loss of chloride ions leads to

Question 107. A child presents with rachitic changes in the limbs that are not responding to Vitamin D supplementation. Investigations reveal the following results : Calcium : . mg/dl, Phosphorus : . mg/dl, Alkaline phosphatase (ALP) : 14 IU, Serum PTH : 4. pg/ml, Serum electrolytes, creatinine, and blood gases : Normal. What is the most likely diagnosis?

A. Vitamin D-dependent rickets type 1

B. Vitamin D-dependent rickets type 2

C. Hypophosphatemic rickets

D. Chronic renal failure

Correct answer: C

This pattern of biochemical findings is classic for X-linked Hypophosphatemic Rickets (XLH), the

most common form of hereditary rickets. The key features are profound hypophosphatemia (low serum phosphate) due to renal phosphate wasting, and a markedly elevated alkaline phosphatase (ALP), indicating active bone disease (rickets). Crucially, the serum calcium and parathyroid hormone (PTH) levels are typically normal or only slightly elevated. This is the key differentiating feature. In nutritional rickets (vitamin D deficiency) and Vitamin D-dependent rickets types 1 and 2, the primary problem leads to hypocalcemia. This hypocalcemia then triggers a secondary hyperparathyroidism (markedly elevated PTH). The combination of severe hypophosphatemia with normal calcium and normal PTH is the specific hallmark of hypophosphatemic rickets, which is resistant to standard vitamin D supplementation.

Question 108. Which vaccine should be avoided in a -month-old infant who has a history of recurrent respiratory infections?

A. Inactivated polio vaccine (IPV)

B. Measles vaccine

C. DPT (Diphtheria, Pertussis, Tetanus)

D. DT (Diphtheria and Tetanus)

Correct answer: B

A history of recurrent respiratory illnesses in a very young infant should raise suspicion of an underlying primary immunodeficiency, particularly a T-cell defect. Live attenuated vaccines are generally contraindicated in individuals with significant cellular immunodeficiencies because even the weakened

Question 109. In a child whose height-for-age Z-score is less than − standard deviations, what is the most likely underlying cause?

A. Chronic malnutrition

B. Acute malnutrition

C. Recent infection

D. No malnutrition

Correct answer: A

Anthropometric indices are used to assess the nutritional status of children. A height-for-age Z-score that is less than -2 standard deviations below the WHO Child Growth Standards median is the definition of stunting. Stunting is an indicator of chronic malnutrition. It reflects a cumulative, long-term process of inadequate nutrition and/or recurrent infections that has hindered a childs linear growth potential over an extended period. In contrast, acute malnutrition is defined by wasting (low weight-for-height) or nutritional edema, which reflects a more recent and severe nutritional deficit. Therefore, a low height-for-age Z-score is the specific marker for chronic malnutrition.

Question 110. A child presents with myoclonic jerks along with a progressive decline

in school performance, and has a past history of fever and rash at one year of age. What is the most likely diagnosis?

A. Subacute sclerosing panencephalitis (SSPE)

B. Mesial temporal sclerosis

C. Polio

D. Measles

Correct answer: A

This clinical scenario is classic for Subacute Sclerosing Panencephalitis (SSPE). SSPE is a

Question 111. A child presents with a webbed neck, short stature, and a low posterior hairline. What is the most likely underlying diagnosis?

A. Turner syndrome

B. Downs syndrome

C. Patau syndrome

D. Edwards syndrome

Correct answer: A

The combination of physical features described—short stature, a webbed neck (pterygium colli), and a low posterior hairline—is the classic clinical triad for Turner syndrome. Turner syndrome is a chromosomal disorder affecting females, in which all or part of one of the X chromosomes is missing (monosomy X, 45,X0). Other associated features can include a broad chest with widely spaced nipples, cubitus valgus, and congenital heart defects (most commonly coarctation of the aorta or a bicuspid aortic valve). The diagnosis is confirmed by karyotyping. The other syndromes listed are autosomal trisomies with different and more severe clinical phenotypes.

Question 112. A 2-year-old boy presents with diminished pulses in the upper limbs, a blood pressure of 0/0 mmHg, and evidence of retinal hemorrhages. What is the most likely diagnosis?

A. Polyarteritis nodosa (PAN)

B. Microscopic polyangiitis

C. Takayasu arteritis

D. Henoch-Schönlein purpura (HSP)

Correct answer: A

No explanation is available for this recall question yet.

Question 113. A 0-year-old boy presents with generalized edema. Laboratory evaluation reveals a cholesterol level of 38 mg/dL, urine protein of +, and fat globules on stool microscopy. What is the most likely diagnosis?

A. Goodpasture syndrome

B. Urine infection

C. Nephrotic syndrome

D. Nephritic syndrome

Correct answer: C

The patient presents with the classic tetrad of nephrotic syndrome :1. Generalized edema : Due to low serum albumin and sodium/water retention.2. Heavy proteinuria : Indicated by urine protein 3+. This is the defining feature, caused by damage to the glomerular filtration barrier.3. Hypoalbuminemia (not directly measured but implied by the edema).4. Hyperlipidemia : Indicated by the high cholesterol level of 238 mg/dl, resulting from increased hepatic lipoprotein synthesis.The finding of fat in the stool (steatorrhea) is not a primary feature of nephrotic syndrome itself but can be seen in certain underlying causes or as a complication. In contrast, nephritic syndrome (D) is characterized by hypertension, hematuria, and mild proteinuria. Goodpasture syndrome (A) is a rapidly progressive glomerulonephritis with pulmonary hemorrhage.

Question 114. A 0-year-old patient reports chronic low back pain with early morning stiffness for the past two years and has developed bilateral heel pain over the last six months. What is the most likely diagnosis?

A. TB spine

B. Ankylosing spondylitis

C. Mechanical pain

D. Disc prolapse

Correct answer: B

This is a classic presentation for an inflammatory spondyloarthropathy, specifically Ankylosing Spondylitis (AS). The key features are the onset in a young adult, chronic inflammatory back pain (characterized by morning stiffness that improves with activity), and a duration of more than 3 months. The presence of bilateral heel pain is also highly suggestive, as enthesitis (inflammation at the site of tendon or ligament insertion into bone) is a hallmark feature of AS. The Achilles tendon and plantar fascia insertions at the heel are common sites for enthesitis. Mechanical back pain (C, D) typically worsens with activity and improves with rest. TB spine (A) would usually present with more constitutional symptoms and destructive changes on imaging.

Question 115. A 0-year-old elderly woman with a prior history of a Colles fracture now presents with back pain. Which of the following statements regarding the management or treatment of her condition is incorrect?

A. Teriparatide should be started before supplementing bisphosphonates

B. Bisphosphonates are not given for more than a year

C. Calcium requirement is 1200 mg per day

D. Oral vitamin D3 is given along with oral calcium

Correct answer: B

This patient likely has osteoporosis, given her age, sex, and history of a fragility fracture (Colles fracture). The incorrect statement regarding treatment is that bisphosphonates are not given for more than a year. Oral bisphosphonates (like alendronate) are a first-line treatment for osteoporosis and are typically prescribed for a duration of 3 to 5 years. After this period, a drug holiday may be considered in low-to-moderate risk patients to reduce the risk of rare side effects like atypical femur fractures. However, a treatment course is much longer than a single year. The other statements are generally correct : adequate calcium (1200 mg/day) and vitamin D intake are essential (C, D). Teriparatide (an anabolic agent) is sometimes used for severe osteoporosis, and its recommended to follow a course of teriparatide with an antiresorptive agent like a bisphosphonate to maintain bone density gains (A).

Question 116. A 7-year-old woman who delivered a baby girl nine months ago presents with absence of menstruation since delivery. She has been using contraception for family planning. Laboratory investigations show a serum β-hCG level of . mIU/mL, a prolactin level of 8 ng/mL, and a TSH level of . µIU/mL. What is the most likely cause of her amenorrhea?

A. Normal pregnancy

B. Lactational amenorrhea

C. Hypothyroidism

D. Prolactinoma

Correct answer: B

The patient is 9 months postpartum and has amenorrhea. The investigations help narrow the cause. The beta-hCG is negative (<5 mIU/mL), ruling out a new pregnancy. The TSH is normal, ruling out hypothyroidism as a cause. The serum prolactin level is significantly elevated at 88 ng/mL (normal non-pregnant, non-lactating level is <25 ng/mL). This high prolactin level is suppressing the hypothalamic-pituitary-ovarian axis, causing amenorrhea. In a woman who is postpartum, the most common physiological cause for such a high prolactin level is breast feeding. The suckling stimulus maintains high prolactin production. This condition is known as lactational amenorrhea. While a protactinium could also cause high prolactin, it is a diagnosis

Question 117. Which of the following features is not commonly associated with uterine didelphys?

A. Transverse lie

B. Endometriosis

C. Repeated abortion

D. Premature labor

Correct answer: B

Uterine didelphys is a Müllerian duct anomaly characterized by a complete duplication of the

uterus, cervix, and often the upper vagina. This abnormal uterine anatomy can have significant obstetric implications. The smaller, irregularly shaped hemi-uteri may have compromised blood supply and reduced capacity, leading to an increased risk of adverse pregnancy outcomes, including recurrent miscarriages (abortions), fetal malpresentation (such as transverse lie), and preterm labor and delivery. However, endometriosis, a condition where endometrial-like tissue grows outside the uterus, is not considered a direct or typical consequence of uterine didelphys. While some Müllerian anomalies with outflow obstruction can be associated with endometriosis, uterine didelphys typically has two functional outflow tracts and is not directly linked to it.

Question 118. What is the preferred treatment or management approach for a uterine septum?

A. Laparoscopic resection of septum

B. Hysteroscopic resection of septum

C. Uterine metroplasty

D. Laparotomy and resection

Correct answer: B

A uterine septum is a congenital Müllerian anomaly where a fibrous or muscular wall divides the uterine cavity. It is a significant cause of recurrent pregnancy loss and adverse obstetric outcomes. The modern gold standard and preferred management for a symptomatic uterine septum is hysteroscopic resection, also known as hysteroscopic metroplasty. This is a minimally invasive procedure where a hysteroscope is inserted through the cervix into the uterine cavity. Specialized instruments,

Question 119. A pregnant woman presents for a routine antenatal visit and gives a history of having delivered twins one year ago. What is her gravida and para status?

A. G2P2

B. G2P3

C. G2P1

D. G2P0

Correct answer: C

Obstetric history is recorded using the gravida and para system.Gravida (G) refers to the total number of pregnancies a woman has had, regardless of the outcome, including the current pregnancy. Since she had one previous pregnancy and is currently pregnant, her gravida is 2 (G2).Para (P) refers to the number of pregnancies that have been carried to a viable gestational age (typically >20 weeks), not the number of fetuses delivered. A twin pregnancy counts as a single delivery event. Since she has had one previous pregnancy that resulted in a delivery, her para is 1 (P1). Therefore, her correct obstetric status is G2P1. The options G2P2 or G2P3 are incorrect as they wrongly count the number of babies instead of the number of pregnancies carried to viability.

Question 120. A woman with hypertension is planning to conceive. Which of the following antihypertensive medications should be discontinued prior to pregnancy?

A. Calcium Channel Blockers

B. ACE inhibitors

C. Alpha Methyl dopa.

D. Labetolol

Correct answer: B

No explanation is available for this recall question yet.

Question 121. A woman with primary infertility is found to have two fibroids located in the cornual region along with bilateral tubal blockage, while ovulation and semen analysis are normal. What is the most appropriate treatment option in this case?

A. Assisted Reproductive Technology (ART)

B. Laparoscopic Myomectomy

C. Hysterectomy

D. Uterine Artery Embolization

Correct answer: A

The definitive cause of this patients primary infertility is the bilateral tubal blockage. The fallopian tubes are essential for natural conception, as they are the site where the egg and sperm meet for fertilization. When both tubes are blocked, fertilization cannot occur naturally. Therefore, the most appropriate treatment to achieve pregnancy is a method that bypasses the fallopian tubes entirely. Assisted Reproductive Technology (ART), specifically in vitro fertilization (IVF), is the treatment of choice. IVF involves stimulating the ovaries to produce multiple eggs, retrieving the eggs surgically, fertilizing them with sperm in the laboratory, and then transferring the resulting embryo(s) directly into the uterus. This process completely bypasses the need for patent fallopian tubes. While a myomectomy (B) might be considered for the fibroids, it would not resolve the primary issue of tubal blockage.

Question 122. A patient presents with cannonball lesions in the lungs following a recent molar pregnancy evacuation. What is the most appropriate management?

A. Hysterectomy

B. EMACO regimen

C. Inj. Methotrexate

D. Multiple dose of Inj. Methotrexate

Correct answer: B

The development of cannonball pulmonary metastases following a molar pregnancy is indicative of high-risk Gestational Trophoblastic Neoplasia (GTN), specifically choriocarcinoma. According to the FIGO staging and scoring system for GTN, the presence of lung metastases in this context automatically classifies the patient as having high-risk disease. Single-agent

chemotherapy with methotrexate is only appropriate for low-risk GTN. High-risk GTN requires aggressive, multi-agent chemotherapy to achieve a cure. The standard and most widely used combination chemotherapy regimen for high-risk GTN is the EMA-CO regimen. This regimen consists of a cycle of Etoposide, Methotrexate, and Actinomycin-D, followed a week later by Cyclophosphamide and Onvincin (vincristine). This intensive chemotherapy is highly effective and can cure the vast majority of patients with high-risk metastatic GTN.GYNE

Question 123. A pregnant woman presents with active herpetic lesions involving the vulva. What is the most appropriate management in this situation?

A. Acyclovir & elective cesarean section (C-section)

B. Induction of labor

C. Acyclovir & allow spontaneous progression of labor

D. Wait & watch

Correct answer: A

The presence of active genital herpetic lesions at the time of labor poses a significant risk of

Question 124. A man requests paternity testing for his twin children, and the results reveal that only one twin is biologically his. What is the most likely explanation for this finding?

A. Superfecundation

B. Superfetation

C. Posthumous child

D. None of the above

Correct answer: A

This scenario describes heteropaternal superfecundation. Superfecundation is the fertilization of two or more ova released during the same ovulatory cycle by sperm from different acts of intercourse. If a woman has intercourse with two different men within a short time frame around ovulation, and she releases two eggs (dizygotic twinning), it is possible for each egg to be fertilized by sperm from a different man. This results in fraternal twins who have different biological fathers. The DNA test results in this case, showing that the husband fathered one twin but not the other, are the definitive proof of this rare phenomenon. Superfetation (B) is the conception of a second fetus while another is already present in the uterus, which is exceedingly rare in humans.

Question 125. What adverse effect can occur if indomethacin is administered beyond 6 weeks of gestation?

A. Premature closure of the patent ductus arteriosus (PDA)

B. Still birth

C. No effect

D. Teratogenic

Correct answer: A

Indomethacin is a nonsteroidal anti-inflammatory drug (NSAID) that acts as a potent inhibitor of prostaglandin synthesis. In the fetus, prostaglandins (specifically PGE2) are essential for maintaining the patency of the ductus arteriosus, a vital shunt that directs blood away from the non-functional fetal lungs. The use of indomethacin or other NSAIDs, particularly in the third trimester (after 32 weeks), can inhibit this prostaglandin production and cause premature constriction or closure of the ductus arteriosus in utero. This leads to a dangerous rerouting of blood through the pulmonary circulation, causing severe pulmonary hypertension and right ventricular failure in the fetus, a condition that can be fatal. For this reason, indomethacin as a tocolytic is generally avoided beyond 32 weeks of gestation.

Question 126. A multigravida woman with second-degree cervical prolapse presents with involuntary dribbling of urine during coughing. What is the most likely diagnosis?

A. Stress incontinence

B. Overflow incontinence

C. Cystitis

D. Functional incontinence

Correct answer: A

The symptom of involuntary leakage of urine specifically during activities that increase intra-abdominal pressure, such as coughing, sneezing, or laughing, is the definition of stress urinary incontinence (SUI). The patients underlying second-degree cervical prolapse indicates significant pelvic floor muscle weakness. This weakness affects the support of the bladder neck and urethra. When intra-abdominal pressure suddenly rises, the weakened urethral sphincter

Question 127. What is the function of the umbilical artery in fetal circulation?

A. Carry deoxygenated blood from the fetus to the placenta

B. Carry oxygenated blood from the placenta to the fetus

C. Provide nutrients

D. None of the above

Correct answer: A

In the unique arrangement of fetal circulation, the umbilical cord contains two arteries and one vein. The roles of these vessels are opposite to those in postnatal systemic circulation. The two umbilical arteries arise from the internal iliac arteries of the fetus and function to carry deoxygenated, waste-rich blood away from the fetus and deliver it to the placenta. In the placenta, this blood undergoes gas exchange and waste removal with the maternal circulation. The freshly oxygenated and nutrient-rich blood is then returned to the fetus via the single umbilical vein (B). Therefore, the umbilical arterys primary function is to transport waste

products and deoxygenated blood from the fetal system back to the placenta for processing.

Question 128. A woman reports missing her oral contraceptive pills on four separate days during the first two weeks of her menstrual cycle. What is the most appropriate advice to give her in this situation?

A. Continue taking the pill

B. Take all 4 pills at once and continue taking pills

C. Adopt another method of contraception

D. Continue current pack, consider additional contraceptive method for remaining days

Correct answer: C

Missing multiple oral contraceptive pills, especially during the first two weeks of the cycle, significantly compromises their contraceptive efficacy and increases the risk of breakthrough ovulation and unintended pregnancy. The standard advice for missing two or more pills

Question 129. A woman at 6 weeks of gestation with mitral stenosis has been receiving warfarin for anticoagulation. What is the most appropriate next step in her management?

A. Shift to Low Molecular Weight (LMW) Heparin

B. Continue Warfarin

C. Switch to Aspirin

D. Aspirin + Heparin

Correct answer: A

Warfarin is an oral anticoagulant that crosses the placenta and can cause fetal bleeding complications, especially during delivery. Therefore, it is standard practice to discontinue warfarin as a woman approaches term. The patient is at 36 weeks of gestation, which is close to delivery. The most appropriate management is to stop the warfarin and switch to an anticoagulant that does not cross the placenta, such as unfrequented heparin or Low Molecular Weight Heparin (LMWH). Heparins are large molecules that do not cross into the fetal circulation, making them safe for the baby. LMWH is often preferred due to its predictable pharmacokinetics and easier dosing. This bridging therapy provides continued anticoagulation for the mother (who is at high risk of thrombosis due to her mitral stenosis) while eliminating the risk of fetal hemorrhage associated with warfarin during labor and delivery.

Question 130. A woman has been taking oral contraceptive pills for the past five months and now presents with amenorrhea for six weeks. What is the most reliable method for estimating gestational age in this situation?

A. 280 days from Last Menstrual Period (LMP)

B. 256 days from Last Menstrual Period (LMP)

C. Crown-Rump Length (CRL) by Ultrasound (USG)

D. Abdominal girth

Correct answer: C

Calculating gestational age based on the Last Menstrual Period (LMP) is unreliable in this patient for two reasons : she has been on OCPs, which suppress ovulation and alter the menstrual cycle, and she has recent amenorrhea. Therefore, the LMP is not a valid starting point. In situations where the LMP is unknown or unreliable, the most accurate

Question 131. In the surgical management of postpartum hemorrhage (PPH), what is the correct sequence of vessel ligation used for uterine devascularization?

A. Uterine artery, pudendal artery, vaginal artery

B. Uterine artery, internal iliac, obturator artery

C. Uterine artery, ovarian artery, internal iliac artery

D. Uterine artery, ovarian artery, vaginal artery

Correct answer: C

When conservative measures fail to control atonic postpartum hemorrhage (PPH), surgical management involving sequential devascularization may be necessary. The procedure follows a stepwise approach to progressively reduce blood flow to the uterus while preserving the organ. The correct order follows the main arterial supply :1. Uterine Artery Ligation : The uterine arteries are the primary blood supply to the uterus. Bilateral ligation of these vessels is the first and often most effective surgical step.2. Ovarian Artery Ligation : If bleeding persists, the next step is to ligate the ovarian arteries (utero-ovarian artery anastomosis). These provide a collateral blood supply to the uterus.3. Internal Iliac Artery Ligation : As a final step before considering hysterectomy, the anterior division of the internal iliac (hypogastric) artery can be ligated bilaterally. This reduces the pulse pressure to the entire pelvic region.

Question 132. An adolescent girl presents with painful menstruation and chronic pelvic pain, and further evaluation reveals a transverse vaginal septum. What is the most likely diagnosis?

A. Endometriosis

B. Tubo-ovarian abscess

C. Dermoid cyst

D. Theca lutein cyst

Correct answer: A

A transverse vaginal septum, particularly if it is partially or completely obstructing, can lead to the retrograde flow of menstrual blood. When menstrual effluent cannot exit freely through the vagina, it can be forced backward through the fallopian tubes and into the peritoneal cavity.

Question 133. A 8-year-old married woman, anxious about conceiving, presents with complaints of excessive vaginal discharge without associated itching. She is

currently on day 2 of her menstrual cycle, counting from the last menstrual period. What is the most likely cause of her symptoms?

A. Candida

B. Trichomonas

C. Bacterial vaginosis

D. Physiological

Correct answer: D

The timing of the patients symptoms is the key to this diagnosis. She is on day 12 of her menstrual cycle, which is during the late follicular phase, approaching ovulation. During this time, estrogen levels are rising and peak just before ovulation. This high estrogen level stimulates the cervical glands to produce a large amount of clear, watery, and elastic mucus. This change in cervical mucus is a normal physiological process designed to facilitate sperm transport. Many women notice this as a significant increase in non-irritating, clear or whitish vaginal discharge around the time of ovulation. The absence of itching, odor, or irritation makes infectious causes like Candidiasis (A), Trichomoniasis (B), or Bacterial Vaginosis (C) much less likely. This presentation is most consistent with normal, physiological mid-cycle cervical mucus.

Question 134. A 0-year-old woman presents with easily rupturable, flaccid bullae on the skin. Histopathological examination of a skin biopsy shows a suprabasal cleft. What is the most likely diagnosis?

A. Pemphigus vegetans

B. Pemphigus vulgaris

C. Pemphigus foliaceous

D. Erythema multiforme

Correct answer: B

The clinical and histological findings are classic for Pemphigus Vulgaris. This is a severe autoimmune blistering disease characterized by autoantibodies against desmoglein-3, a protein component of desmosomes that holds epidermal cells together. This antibody attack leads to a loss of cell-to-cell adhesion (acantholysis) within the epidermis. Histologically, this results in an intra epidermal split just above the basal cell layer, which is described as a supra basal split. Clinically, this superficial split results in the formation of thin-roofed, flaccid bullae that rupture easily, leaving painful erosions (a positive Nikolsky sign). Pemphigus foliaceus (C) involves a more superficial split within the granular layer. Pemphigus vegetans (A) is a variant of vulgaris. Erythema multi forme (D) is a hypersensitivity reaction with a different histology.

Question 135. A patient receiving multi drug therapy (MB-MDT) for leprosy develops inflammation of pre-existing skin lesions along with nerve involvement. What is the most appropriate treatment approach in this situation?

A. Stop anti-leprosy treatment (ALT) and start steroids

B. Stop anti-leprosy treatment (ALT) and start thalidomide

C. Continue anti-leprosy treatment (ALT) and start steroids

D. Continue anti-leprosy treatment (ALT) and start thalidomide

Correct answer: C

No explanation is available for this recall question yet.

Question 136. A 3-year-old primigravida lives in the same household as her school-going nephew, who has developed varicella infection. She visits a medical center and is found to be negative for varicella antibodies. Which of the following statements regarding her condition and management are correct?

A. She is susceptible to zoster

B. She is susceptible to chickenpox

C. She is immune to chickenpox

D. She is immune to zoster

Correct answer: B

Varicella-zoster virus (VZV) causes chickenpox (varicella) as its primary infection. After this infection, the virus becomes latent in the dorsal root ganglia. Immunity is conferred by the presence of anti-VZV antibodies. A person who is immune can later develop zoster (shingles) due to reactivation of this latent virus. This patient has a negative varicella antibody test, which means she has never had a primary infection with VZV and therefore has no immunity. As a non-immune individual, she is susceptible to contracting the primary infection, which is chickenpox, from her infected nephew. This is a high-risk situation, as primary varicella infection during pregnancy can have serious consequences for both the mother and the fetus. She is a candidate for post-exposure prophylaxis with Varicella-Zoster Immune Globulin (VZIG).

Question 137. Most effective circuit in spontaneous anaesthesia is-

A. CPCR with 20% Intralipid

B. CPCR with sodium bicarbonate

C. CPCR with dobutamine

D. CPCR with calcium

Correct answer: A

The patient has suffered a cardiac arrest (unresponsive, unrecordable pulse) immediately following the administration of bupivacaine, a long-acting local anesthetic. This is the classic presentation of Local Anesthetic Systemic Toxicity (LAST), specifically cardiotoxicity. Bupivacaine is particularly cardiotoxic, causing refractory arrhythmias and myocardial depression. The standard management of cardiac arrest due to LAST involves immediate initiation of high-quality CPR (CPCR) and airway management. Crucially, the specific antidote is the intravenous administration of a 20% lipid emulsion solution (Intralipid). The lipid emulsion acts as a lipid sink, sequestering the lipophilic bupivacaine molecules from their sites of action

in the cardiac tissue, thereby reversing the toxicity. This lipid rescue therapy is a critical and life-saving intervention for LAST-induced cardiac arrest.

Question 138. While performing a lumbar puncture in a patient with fever, neck stiffness, and altered mental status, which anatomical structure is encountered last by the needle?

A. Arachnoid membrane

B. Ligamentum flavum

C. Dura mater

D. Pia mater

Correct answer: A

During a lumbar puncture, the needle is inserted into the subarachnoid space to collect cerebrospinal fluid (CSF). The needle must traverse several layers in sequence from superficial to deep :1. Skin2. Subcutaneous tissue3. Supraspinous ligament4. Interspinous ligament5. Ligamentum flavum (a distinct pop is often felt here)

Question 139. A patient undergoing surgery with halothane anesthesia develops hyperthermia and muscle rigidity. Which agent is most likely responsible for triggering this condition?

A. D-tubocurarine

B. Suxamethonium

C. Cisatracurium

D. Rocuronium

Correct answer: B

The patient is developing malignant hyperthermia (MH), a rare but life-threatening pharmacogenetic disorder of skeletal muscle. It is characterized by a hypermetabolic state that leads to hyperthermia, muscle rigidity, tachycardia, hypercapnia, and rhabdomyolysis. MH is triggered by exposure to specific anesthetic agents in susceptible individuals. The classic triggering agents are all volatile halogenated anesthetics (like halothane, sevoflurane) and the depolarizing neuromuscular blocker suxamethonium (succinylcholine). The other neuromuscular blockers listed—d-tubocurarine, cisatracurium, and rocuronium—are non-depolarizing agents and are considered safe as they do not trigger MH. Therefore, the combination of halothane and suxamethonium is highly likely to be responsible for this fulminant reaction. The definitive treatment for an MH crisis is the immediate administration of dantrolene.

Question 140. A child receives prophylactic irradiation as part of conditioning before bone marrow transplantation for acute lymphoblastic leukemia. Which type of cell is least susceptible to damage from radiation in this setting?

A. Spermatogonia

B. Intestinal epithelial cells

C. Neurons

D. Bone marrow

Correct answer: C

The sensitivity of cells to ionizing radiation is described by the Law of Bergonié and Tribondeau, which states that radiosensitivity is directly proportional to the rate of cell division and inversely proportional to the degree of cell differentiation. Cells that are rapidly dividing and poorly differentiated are the most sensitive. Tissues like bone marrow, intestinal epithelium, and spermatogonia are composed of rapidly proliferating cells and are therefore highly radiosensitive. In contrast, neurons are highly specialized, fully differentiated cells that are post-mitotic (they do not divide in adulthood). This makes them one of the most radioresistant cell types in the body. While very high doses of radiation can cause neuronal damage, they are significantly less affected by conventional radiation doses compared to the rapidly renewing tissues listed in the other options.

Question 141. A mother brings her daughter with complaints of short stature, a webbed neck, and other characteristic physical features. What is the most likely finding on ultrasound examination?

A. Hepatomegaly with altered echotexture

B. Single kidney

C. Echo showing tricuspid stenosis

D. Streak ovaries with small uterus

Correct answer: D

The clinical features of short stature and a webbed neck are classic for Turner syndrome (45,X0). Turner syndrome is a chromosomal disorder characterized by the absence of one X chromosome in females, leading to gonadal dysgenesis. The ovaries fail to develop properly and are replaced by fibrous tissue, which are referred to as streak ovaries. These streak gonads do not produce estrogen. The lack of estrogen stimulation results in a persistently infantile or small uterus. A pelvic ultrasound is a key investigation in these patients and will characteristically reveal the presence of streak ovaries and a hypoplastic uterus. While renal anomalies like a horseshoe kidney can occur, the most consistent and defining finding on pelvic ultrasound is the gonadal dysgenesis.

Question 142. A child receives prophylactic irradiation as part of the conditioning regimen before bone marrow transplantation for acute lymphoblastic leukemia. Which type of cell would be least susceptible to damage from radiation?

A. Spermatogonia

B. Intestinal epithelial cells

C. Neurons

D. Bone marrow

Correct answer: C

The sensitivity of different cell types to radiation is largely determined by their rate of proliferation and degree of differentiation. According to the Law of Bergonié and Tribondeau, cells that are rapidly dividing and are less differentiated are the most radiosensitive. This includes hematopoietic stem cells in the bone marrow, the crypt cells of the intestinal epithelium, and germline stem cells like spermatogonia. These tissues are all highly affected by total

Question 143. A patient undergoing evaluation for infertility has an ultrasound suggesting a uterine anomaly. Which diagnostic method is most appropriate to confirm the exact nature of this anomaly?

A. Transvaginal Sonography (TVS)

B. Hysteroscopy + Laparoscopy

C. Hysterosalpingography (HSG)

D. Laparoscopy

Correct answer: B

While imaging modalities like 3D ultrasound and MRI are excellent non-invasive tools for diagnosing Müllerian duct anomalies, the