

INI CET 2022 Answer Key PDF

Q1. (b) (Genomic imprinting) . Genomic imprinting leads to different gene expression depending on whether the gene is inherited from the mother or the father.

Q2. (a) (Krukenberg spindle) . Krukenberg spindle is associated with pigment dispersion or glaucoma, not complicated cataracts. The rest are typical features.

Q3. (d) (Adrenal cortical tumor) . Neurosecretory granules are features of neuroendocrine tumors, not adrenal cortical tumors which are steroid-producing.

Q4. (a) (Collect it using a card on paper and put it in a jar) . Mercury should be safely collected using stiff paper or a card and sealed in a container to avoid toxic exposure.

Q5. (b) (Right superior gluteal nerve) . The superior gluteal nerve innervates gluteus medius and minimus; its injury causes hip drop on the opposite side during walking.

Q6. (b) (Grade 2) . Grade 2 retraction involves the tympanic membrane touching the malleus or promontory without adhesion—typical for this presentation.

Q7. (b) (PET scan) . PET scan is not routinely used to diagnose primary breast cancer; it's used for staging or assessing metastasis.

Q8. (c) (Painless vaginal bleeding) . Painless vaginal bleeding suggests placenta previa, not abruptio, which is typically painful with a tender uterus.

Q9. (c) (1, 2, 3, 6) . Neural crest derivatives include odontoblasts, sympathetic neurons, melanocytes, and conotruncal septum components.

Q10. (d) (Metastatic lymph nodes) . Metastatic lymph nodes rarely show egg shell calcification; it's typical in silicosis, sarcoidosis, and post-radiation changes.

Q11. (c) (Upper motor neuron) . Exaggerated reflexes occur in upper motor neuron lesions due to the loss of inhibitory modulation from the brain on reflex arcs.

Q12. (a) (Peroxisomes) . Zellweger syndrome is a peroxisomal biogenesis disorder caused by mutations in PEX genes, affecting multiple organ systems.

Q13. (d) (Increase PEEP) . In ARDS, if oxygenation remains poor despite high FiO₂, increasing PEEP is recommended to recruit alveoli and improve gas exchange.

Q14. (b) (1-d, 2-b, 3-a, 4-c) . Pre-pathogenesis is before disease onset, pathogenesis includes symptom onset, natural course follows untreated progression, and rehabilitation involves recovery.

Q15. (b) (1,2) . Goodell's and Oslander's signs are early pregnancy signs due to increased vascularity. Ballottement and lightening occur later in gestation.

Q16. (b) (Indirect) . Indirect (or circumstantial) evidence implies the involvement of the accused without direct observation of the act itself.

Q17. (c) (Metabolic acidosis) . Increased anion gap metabolic acidosis is seen in conditions like diabetic ketoacidosis, lactic acidosis, and renal failure.

Q18. (d) (1-d, 2-a, 3-b, 4-c) . These signs are classic radiologic indicators: football sign in pneumoperitoneum, string sign in HPS, rat tail in achalasia, and umbrella sign in TB.

Q19. (b) (1-d, 2-c, 3-b, 4-a) . Lithium → Ebstein anomaly, Chloramphenicol → Gray baby syndrome, Warfarin → nasal bridge defect, Thalidomide → phocomelia.

Q20. (a) (Liver iron concentration) . Liver iron concentration is the most reliable and direct indicator of iron overload in transfused thalassemia patients.

Q21. (d) (Cetuximab) . Cetuximab is an EGFR inhibitor, not a checkpoint inhibitor. The others target PD-1/PD-L1 pathways to boost immune responses against tumors.

Q22. (a) (2, 3) . Split-thickness grafts have higher secondary contracture risk, while full-thickness grafts contract more during healing initially (primary contracture).

Q23. (b) (Typhoid vaccine) . Typhoid vaccine is not routinely indicated before splenectomy. Vaccines against encapsulated organisms like pneumococcus, meningococcus, and Hib are essential.

Q24. (c) (C, D, A, B) . Action potential sequence: C (Na^+ influx), D (initial K^+ efflux), A (Ca^{2+} plateau), and B (final K^+ efflux) for repolarization.

Q25. (a) (Cocaine) . Cocaine blocks norepinephrine reuptake, leading to sympathetic overactivity and hypertension—a unique property among local anesthetics.

Q26. (a) (Ileocolic artery) . The ileocolic artery supplies the appendix; failure to ligate it properly during appendectomy can lead to postoperative bleeding.

Q27. (c) (Laparotomy) . Suspected bladder or urethral injury with no urine output post-trauma necessitates surgical exploration (laparotomy) to identify the cause.

Q28. (b) (3,2,4,1) . AMTSL includes excluding a second fetus, administering uterotonic, applying controlled traction, then uterine massage to prevent PPH.

Q29. (d) (1,4) . Clear cell RCC is the most common renal tumor and arises from proximal tubule with clear cytoplasm due to glycogen and lipid accumulation.

Q30. (a) (Folate deficiency) . Elevated homocysteine with normal methylmalonic acid is characteristic of folate deficiency, common in elderly vegetarians.

Q31. (a) (Gastric and pancreatic) . Meckel's diverticulum often contains gastric or pancreatic ectopic mucosa, leading to complications like bleeding.

Q32. (d) (1, 2) . Thiamine and benzodiazepines like diazepam are used in alcohol withdrawal with seizures and hallucinations; naltrexone and antipsychotics are not first-line.

Q33. (a) (Prostaglandins...) . In preeclampsia, Thromboxane A2 increases and Prostacyclin decreases — leading to vasoconstriction and platelet aggregation, not the reverse.

Q34. (b) (Ilioinguinal nerve) . The ilioinguinal nerve provides sensory innervation to the root of the penis and may be injured during open inguinal hernia surgery.

Q35. (d) (2, 3, 4) . Oxygen, frequent salbutamol nebulizations, and corticosteroids are standard treatment in acute asthma exacerbations. Chest X-ray is not always immediately necessary.

Q36. (d) (Small cell carcinoma) . Small cell carcinoma is a neuroendocrine tumor typically positive for chromogranin. It is strongly associated with heavy smoking and rapid progression.

Q37. (d) (Aspirin) . Aspirin is a weak acid. Urinary alkalinization increases its renal excretion, making it a key treatment in salicylate toxicity.

Q38. (b) (Steroids) . This presentation is classic for Sheehan's syndrome (postpartum pituitary infarct). Steroid replacement is urgent to treat adrenal insufficiency.

Q39. (b) (A, B, C, D) . SSRIs during pregnancy may be associated with a variety of neonatal effects including low APGAR, PPHN, developmental issues, and possible behavioral changes like ADHD.

Q40. (a) (1, 2, 3 and 4 are correct) . Sham is the primary case who first developed disease; Ram is the index case who brought the disease to healthcare notice. Prophylaxis could've been given earlier.

Q41. (c) (Piriformis) . Piriformis is not supplied by the superior gluteal nerve. It is innervated by branches from the sacral plexus (S1–S2).

Q42. (d) (Mean arterial pressure – intracranial pressure) . Cerebral perfusion pressure (CPP) is calculated as mean arterial pressure (MAP) minus intracranial pressure (ICP). $CPP = MAP - ICP$.

Q43. (a) (Anosmia) . Kallmann syndrome presents with hypogonadotropic hypogonadism and anosmia due to failed migration of GnRH-secreting neurons.

Q44. (b) (B lymphocytes) . B lymphocytes are part of adaptive immunity. Innate immunity includes defensins, gamma delta T cells, and the lectin pathway.

Q45. (b) (Ewing sarcoma) . Ewing sarcoma is a small round blue cell tumor often seen in diaphyses of long bones and is positive for MIC2 and synaptophysin.

Q46. (c) (1-A, 2-B, 3-D, 4-C) . Prussian blue stains iron, PAS stains glycogen, Congo red stains amyloid (with apple-green birefringence), and Fite-Faraco stains Mycobacterium leprae.

Q47. (c) (The patient is less likely to have the disease) . A highly sensitive test, when negative, effectively rules out disease — a concept known as “SnNOut.”

Q48. (b) (5 minutes of arc) . Normal visual acuity (6/6) corresponds to a minimum angle of resolution of 1 arcminute per letter component — making full letters span about 5 minutes of arc.

Q49. (c) (Abducens nerve) . The marked part in the diagram represents the abducens nerve (CN VI) emerging from the brainstem at the pontomedullary junction.

Q50. (a) (Attachment of ATP to the myosin head) . ATP binding to the myosin head causes it to detach from actin, a key step in the muscle contraction-relaxation cycle.

Q51. (c) (Female sterilization) . Female sterilization is a permanent method of contraception, not a long-term reversible one.

Q52. (a) (Contralateral hemiplegia) . Contralateral hemiplegia is typically due to cerebral hemisphere lesions, not spinal cord pathology.

Q53. (c) (Renal cell carcinoma) . Renal cell carcinoma typically presents with hematuria and a mass, and shows enhancement on contrast imaging.

Q54. (d) (A, D) . Isoniazid inhibits mycolic acid synthesis, and bedaquiline targets ATP synthase in mycobacteria. Pyrazinamide is not an enzyme inducer, and rifampicin is used for other infections as well.

Q55. (a) (The relative afferent pupillary defect is seen) . A relative afferent pupillary defect (RAPD) is characteristic of optic neuritis, often associated with demyelination (e.g., multiple sclerosis).

Q56. (a) (Phase contrast microscopy) . Phase contrast microscopy enhances contrast in unstained, transparent samples, making it ideal for observing live bacteria.

- Q57. (b) (Adenosine)** . Adenosine is the first-line drug in stable supraventricular tachycardia; it transiently blocks AV conduction.
- Q58. (d) (1 and 4)** . Chest X-ray helps identify radiopaque foreign bodies; bronchoscopy allows direct visualization and removal in suspected aspiration.
- Q59. (b) (Binding to the beta subunit of Hb)** . 2,3-BPG binds to the beta chains of deoxyhemoglobin, stabilizing it and promoting oxygen release to tissues.
- Q60. (c) (1,4)** . Pneumococcal and zoster vaccines are recommended in the elderly due to increased susceptibility and morbidity from these infections.
- Q61. (a) (Cry of baby in the womb)** . Vagitus uterinus is the rare phenomenon of fetal crying in utero, usually observed during cesarean section or obstetric interventions.
- Q62. (a) (Atropine)** . These symptoms are typical of organophosphate poisoning. Atropine is used to counteract muscarinic overstimulation.
- Q63. (b) (Pearl index)** . The Pearl Index measures the failure rate of a contraceptive method per 100 woman-years of use.
- Q64. (d) (Divalent metal transporter – 1)** . Divalent metal transporter-1 (DMT1) moves iron from the intestinal lumen into enterocytes for absorption.
- Q65. (c) (1-d, 2-c, 3-b, 4-a)** . PLAG1 is linked to pleomorphic adenoma, cMyc to Burkitt lymphoma, nMyc to neuroblastoma, and Rb to retinoblastoma.
- Q66. (a) (Rett syndromes)** . Rett syndrome follows an X-linked dominant inheritance, often affecting females due to male lethality in utero.
- Q67. (a) (Osteoarthritis)** . Reduced joint space and unilateral knee involvement are characteristic of osteoarthritis, not inflammatory or infectious arthropathies.
- Q68. (a) (Complete transection of spinal cord)** . Brown Sequard syndrome involves hemisection of the spinal cord, not complete transection, which results in bilateral deficits.
- Q69. (c) (Urea breath test)** . The urea breath test is a non-invasive and reliable method to confirm eradication of *H. pylori* after therapy.
- Q70. (c) (It is the method of choice in cardiac arrest patient)** . RSI is contraindicated in cardiac arrest; bag-mask ventilation with chest compressions and oxygenation is prioritized.
- Q71. (a) (Acute congestive glaucoma)** . Atropine is contraindicated in acute congestive (angle-closure) glaucoma as it can worsen intraocular pressure by dilating the pupil.
- Q72. (b) (Untreated cataract)** . The 2015–19 survey highlighted untreated cataract as the leading cause of moderate-to-severe visual impairment in India.
- Q73. (d) (Perineural invasion)** . Pleomorphic adenoma typically lacks perineural invasion, a feature more characteristic of malignant tumors.
- Q74. (d) (24-h pH monitoring)** . 24-hour pH monitoring is mainly for GERD diagnosis. It's not essential for mechanical motility disorders.
- Q75. (b) (40 ml/min/1.73 m² BSA)** . Using the Schwartz formula, $eGFR = (k \times \text{height})/\text{serum creatinine}$, this yields approximately 40 mL/min/1.73 m² for this child.

Q76. (c) (Diffuse axonal injury) . Diffuse axonal injury often presents with low GCS and a normal CT initially due to microscopic axonal shearing, commonly after high-impact trauma.

Q77. (c) (Protection against STDs) . Oral contraceptives do not protect against STDs or HIV; condoms are required for such protection. The others are well-documented benefits.

Q78. (a) (Hydrogen peroxide) . Hydrogen peroxide is a strong oxidizer used as a disinfectant but is not typically categorized as a sanitizer, which is milder and used on skin or food-contact surfaces.

Q79. (b) (Descriptive statistics) . Descriptive statistics summarizes and organizes characteristics of a data set, such as mean, median, and standard deviation.

Q80. (c) (Both assertion and reason are independently true statements, but the reason is not the correct explanation) . In phenylketonuria, the urine has a characteristic mousy odor. Although tyrosine-derived catecholamine levels may decrease, it is not the direct reason for the urine odor.

Q81. (c) (Junction of thick ascending limb and DCT) . The macula densa is located at the junction of the thick ascending limb of Henle's loop and the distal convoluted tubule, playing a role in regulating renin release.

Q82. (c) (Rapid sodium correction) . Rapid correction of hyponatremia can lead to osmotic demyelination syndrome, manifesting with mutism, quadriplegia, and rigidity.

Q83. (b) (8 times) . According to Poiseuille's law, flow is proportional to the fourth power of radius and inversely proportional to length. So flow in vessel B is 8 times that of A.

Q84. (b) (1,2,3,4) . Sirtuins are NAD⁺-dependent deacetylases involved in aging and metabolism. All four statements are accurate regarding their role and classification.

Q85. (a) (Absence of alpha oxidation in peroxisomes) . Refsum disease is a peroxisomal disorder caused by impaired alpha oxidation of phytanic acid, leading to its accumulation.

Q86. (c) (Methemoglobinemia) . Methemoglobinemia is characterized by chocolate-brown colored blood due to oxidized iron in hemoglobin that can't bind oxygen efficiently.

Q87. (b) (Low serum ferritin) . Ferritin is usually normal or high in anemia of chronic disease, unlike iron deficiency anemia where it's low.

Q88. (c) (It has an inhibitory effect on cerebral cortex...) . MgSO₄ prevents seizures by neuromuscular blockade, but it does not lower BP directly; antihypertensives are required for BP control.

Q89. (a) (Rett syndrome) . Rett syndrome is an X-linked dominant disorder usually lethal in males and almost exclusively seen in females.

Q90. (a) (NYHA 3) . NYHA Class III includes symptoms with less than ordinary activity like walking around the house, e.g., to the bathroom.

Q91. (d) (Laparoscopic cerclage) . Laparoscopic cerclage is typically done pre-pregnancy or in early pregnancy when transvaginal cerclage is not feasible.

Q92. (b) (Growth of 10⁵ coliform in voidine urine sample) . Asymptomatic bacteriuria in pregnancy is defined by ≥10⁵ CFU/mL of a single pathogen in a voided urine sample.

Q93. (b) (Metabolic acidosis with high anion gap) . Methanol intoxication leads to high anion gap metabolic acidosis due to formic acid accumulation.

Q94. (c) (Start anti-tubercular therapy) . Elevated ADA in ascitic fluid along with constitutional symptoms supports the diagnosis of tubercular peritonitis, warranting empirical ATT.

Q95. (c) (Follicular conjunctivitis) . Follicular conjunctivitis is the most common ocular finding in COVID-19, typically mild and self-limiting.

Q96. (a) (1,2,3 are correct) . Chronic arsenic poisoning presents with raindrop pigmentation, peripheral neuritis, and Mees lines. Luminous vomit is not a feature.

Q97. (a) (Gottron's papules) . Gottron's papules and heliotrope rash are features of juvenile dermatomyositis. Gottron's papules are characteristic scaly lesions over joints.

Q98. (d) (Active Na^+ reabsorption, passive Cl^- reabsorption, active K^+ secretion, passive secretion of HCO_3^-) . In ductal saliva modification, Na^+ is actively reabsorbed, Cl^- passively follows, K^+ is actively secreted, and HCO_3^- is secreted passively.

Q99. (d) (Hypopyon) . A fungal corneal ulcer post vegetative trauma may present with a hypopyon — accumulation of pus in the anterior chamber.

Q100. (a) (Large bowel obstruction due to sigmoid volvulus) . The X-ray may show a classic “coffee-bean” sign of sigmoid volvulus, especially common in elderly with history of constipation or neurogenic bowel.

Q101. (c) (In a few days) . Early intervention is key in congenital talipes equinovarus (CTEV); treatment should start within days to weeks after birth using methods like the Ponseti technique.

Q102. (a) (Malaria) . The image shows an anti-malarial combikit (Artesunate, Sulfadoxine & Pyrimethamine), which is the standard treatment for malaria.

Q103. (a) (Foramen lacerum) . The foramen lacerum is formed by the sphenoid, temporal, and occipital bones.

Q104. (b) (Mental) . The mental artery is a branch of the inferior alveolar artery, not the facial artery.

Q105. (d) (1-b, 2-a, 3-c, 4-d) . Kupffer cells → liver, Parietal cells → stomach, Dust cells → alveoli, Clara cells → bronchioles.

Q106. (a) (Axillary nerve) . The axillary nerve courses near the inferior glenoid and is most at risk in anterior shoulder dislocation, leading to deltoid weakness and sensory loss over the regimental badge area.

Q107. (a) (Fluorescent in situ hybridisation) . FISH is used to detect specific gene rearrangements, such as EWSR1 translocation in Ewing sarcoma, and uses fluorescent probes to bind DNA sequences.

Q108. (c) (90% cases of lung cancer can be eliminated in smokers if smoking is eliminated) . Attributable risk of 90% in smokers means that 90% of lung cancer cases in smokers could be prevented by avoiding smoking.

Q109. (a) (Measles) . Measles is highly contagious and spreads via airborne droplets; strict isolation in a negative pressure room is recommended to prevent transmission.

Q110. (d) (Lorazepam) . Lorazepam is preferred in patients with liver dysfunction because it undergoes phase II metabolism (glucuronidation), which is preserved in hepatic impairment.

Q111. (b) (14-year-old girl with Tanner stage 1 breasts) . Primary amenorrhea is defined by absence of menarche by age 13 without secondary sexual characteristics or by age 15 with them. A 14-year-old with Tanner stage 1 (no breast development) fits the definition.

Q112. (c) (Amphotericin B + flucytosine) . Neutrophilic pleocytosis with normal glucose and high protein in an immunocompromised host suggests cryptococcal meningitis; amphotericin B with flucytosine is the treatment.

Q113. (a) (DNA foot printing) . DNA footprinting identifies specific DNA sequences that bind proteins, indicating interaction sites by protecting DNA from enzymatic cleavage.

Q114. (a) (Branched-chain ketoacid dehydrogenase) . Maple syrup urine disease is caused by deficiency of branched-chain ketoacid dehydrogenase, leading to buildup of leucine, isoleucine, and valine.

Q115. (b) (Coarctation distal to the origin of the left subclavian artery) . Coarctation of the aorta distal to the left subclavian artery leads to decreased lower limb perfusion, cold extremities, and radio-femoral delay.

Q116. (b) (Calculated from the last day of the last menstrual period) . Period of gestation is calculated from the first day of the last menstrual period, not the last day.

Q117. (d) (Subdural hematoma) . Subdural hematoma is common in elderly following trauma, often presenting days later with progressive neurological symptoms.

Q118. (b) (Folate) . Folate is essential for thymidine synthesis. Its deficiency leads to uracil incorporation in DNA, causing strand breaks and megaloblastic anemia.

Q119. (d) (Packet 1 for 6 months) . The description suggests paucibacillary leprosy (one lesion, one nerve). WHO recommends treatment with Packet 1 for 6 months in such cases.

Q120. (b) (Clear cell carcinoma) . In utero exposure to DES (diethylstilbestrol) increases the risk of clear cell adenocarcinoma of the vagina and cervix in female offspring.

Q121. (d) (BIRADS 2) . Fibroadenomas are benign lesions typically classified under BIRADS 2, indicating a non-cancerous finding.

Q122. (a) (Standard deviation) . The formula shows the standard deviation, which is the square root of the variance, used to measure the spread of a data set.

Q123. (b) (Phase 4 is also called post marketing surveillance) . Phase 4 trials are post-marketing studies to monitor drug effectiveness and collect information about adverse effects.

Q124. (a) (Contusion) . A contusion (bruise) is caused by blunt force trauma leading to subdermal hemorrhage without skin break.

Q125. (b) (Chronic lymphocytic leukemia) . CLL often presents with smudge cells on peripheral smear, which are fragile lymphocytes disrupted during slide preparation.

Q126. (b) (1-C, 2-A, 3-D, 4-B) . Eonism refers to cross-dressing; exhibitionism to exposing genitals; frotteurism to rubbing in crowds; necrophilia to sexual acts with corpses.

- Q127. (c) (A-3, B-1, C-2, D-4)** . Nylon is commonly used for skin closure (A-3), polyglactin for bowel anastomosis (B-1), polypropylene for linea alba (C-2), and mesh fixation (D-4).
- Q128. (a) (46 hours)** . Letrozole, an aromatase inhibitor used in breast cancer treatment, has a half-life of approximately 46 hours.
- Q129. (d) (FNAC or biopsy to be done before nephrectomy)** . In suspected hydatid disease, FNAC or biopsy is contraindicated due to risk of cyst rupture and anaphylaxis.
- Q130. (b) (Loss of taste sensation in posterior 1/3rd of tongue)** . The glossopharyngeal nerve (CN IX) passes through the jugular foramen and supplies taste to the posterior 1/3rd of the tongue.
- Q131. (a) (Ureaplasma urealyticum)** . Ureaplasma belongs to the class Mollicutes, which are bacteria without a cell wall, making them resistant to beta-lactam antibiotics.
- Q132. (b) (Paracetamol)** . NAPQI (N-acetyl-p-benzoquinone imine) is the toxic metabolite of paracetamol responsible for liver injury in overdose situations.
- Q133. (a) (Raltegravir)** . Raltegravir is an integrase inhibitor that blocks the integration of viral DNA into the host genome, corresponding to step 5 in the HIV lifecycle.
- Q134. (b) (Arterial pH >7.2)** . Severe malaria presents with hypoglycemia, renal failure, coma, and acidosis. However, arterial pH >7.2 is not considered a complication.
- Q135. (c) (Psoriasis)** . Psoriasis is characterized by erythematous plaques, nail pitting, and joint involvement, distinguishing it from other papulosquamous disorders.
- Q136. (d) (4)** . Beta-lactam antibiotics inhibit transpeptidation (Step 4), the final step in peptidoglycan cross-linking during bacterial cell wall synthesis.
- Q137. (b) (Vulval hamartoma)** . Vulval hamartomas are benign and not known risk factors for vulval cancer, unlike dystrophy, warts (HPV), and smoking.
- Q138. (a) (1)** . A drop in pH reflects respiratory acidosis or compensation; the CO₂ dissociation curve would follow a rightward shift, as indicated by line 1.
- Q139. (a) (1)** . Influenza virus (Image 1) undergoes antigenic shift and drift; similar segmented RNA viruses can undergo reassortment and rapid genetic change.
- Q140. (b) (C banding)** . C banding highlights constitutive heterochromatin in the centromeric region, making it ideal for identifying dicentric chromosomes.
- Q141. (a) (A is Na⁺, B is K⁺)** . Sodium influx initiates depolarization (A), and potassium efflux restores resting potential (B) during an action potential.
- Q142. (c) (Needle thoracocentesis)** . These are signs of tension pneumothorax, which is managed first with needle decompression (thoracocentesis) before definitive chest tube.
- Q143. (a) (12 mmHg)** . Tissue oncotic pressure typically ranges around 12 mmHg and plays a role in fluid exchange across capillaries.
- Q144. (d) (1, 3)** . Asymptomatic infants are at lower risk for long-term effects. In developing countries, reactivation is more common than primary infection.
- Q145. (b) (2, 3, 4, 5)** . Newborns require a smaller gauge like 24G for IV access. The procedure typically includes a syringe, tape, and saline flush.

Q146. (b) (Electron microscopy) . Electron microscopy is used for ultrastructural studies and not for functional assessment of mucociliary clearance.

Q147. (b) (A-4, B-1, C-2, D-3) . Wedge biopsy for Marjolin ulcer, excision biopsy for lymph node, core biopsy for soft tissue sarcoma, and FNAC for thyroid nodules.

Q148. (d) (Entosis) . Entosis is a phenomenon where one cell is engulfed by another, producing a characteristic "cell-in-cell" appearance.

Q149. (c) (A-2, B-4, C-3, D-1) . Type II involves incus placement, Type III columella reconstruction, Type IV fenestration, and Type V for cavum minor.

Q150. (c) (Claw hand) . Klumpke's palsy involves the C8–T1 roots, leading to paralysis of the intrinsic hand muscles and resulting in a claw hand deformity.

Q151. (a) (Turner syndrome) . This presentation is typical of Turner syndrome, characterized by gonadal dysgenesis, short stature, and primary amenorrhea.

Q152. (a) (Internal laryngeal nerve) . The internal laryngeal nerve, a branch of the superior laryngeal nerve, is responsible for the afferent limb of the cough reflex.

Q153. (d) (Culex) . Culex mosquitoes typically breed in stagnant and polluted water like septic tanks, distinguishing them from other genera.

Q154. (d) (Disaster mitigation) . Disaster mitigation includes long-term steps taken to reduce the impact of future disasters, such as improving building codes.

Q155. (c) (Gq) . Gq-coupled receptors activate phospholipase C, which generates IP₃ and DAG, leading to calcium release and protein kinase activation.

Q156. (b) (Promethazine) . The patient has developed acute dystonia, a common extrapyramidal side effect of risperidone. Promethazine, an antihistamine with anticholinergic activity, rapidly relieves these symptoms.

Q157. (b) (Garroting) . Garroting involves the use of a ligature tightened with a stick or rod—termed "Spanish windlass"—to produce fatal constriction around the neck.

Q158. (d) (Bronchiectasis) . The patient's graph likely shows obstructive flow-volume loop changes (FEV₁/FVC < 70%), which are characteristic of bronchiectasis.

Q159. (d) (Left hypoactive labyrinth) . In peripheral vertigo, the fast component beats away from the lesion and the slow phase is toward it. So slow phase to the left indicates a left hypoactive labyrinth.

Q160. (d) (A, C, D) . Cardiac output can be measured using echocardiography (A), thermodilution (C), and Fick's principle (D). V/Q scan is for lung assessment.

Q161. (a) (V) . Segment V lies in the anterior inferior portion of the right lobe of the liver. It is often visualized anterior to the portal vein on axial scans.

Q162. (b) (Albumin) . Fructosamine forms by non-enzymatic glycation of serum proteins like albumin and reflects average blood glucose over the past 2–3 weeks.

Q163. (b) (Duodenal fistula) . Duodenal fistula leads to significant loss of digestive enzymes and nutrients early in the absorption pathway, causing severe malnutrition.

Q164. (c) (CT Limbs) . Whole-body trauma CT typically includes head, spine, chest, and abdomen. CT of the limbs is not routine unless specific injuries are suspected.

Q165. (a) (1) . Like influenza, segmented RNA viruses such as rotavirus (Image 1) also undergo reassortment, resulting in antigenic shift.

Q166. (c) (1, 2, 3 and 4) . Psoas abscess commonly presents with fluctuating hip swelling, pain on hip extension (psoas sign), and often results from TB spine (cold abscess). Hematogenous spread occurs especially in immunocompromised.

Q167. (b) (Uterine contractility is mediated by level T7–T8) . Uterine contractions are mediated via T10–L1; T7–T8 are not involved. The rest accurately describe labor pain pathways.

Q168. (c) (Artesunate...) . Severe falciparum malaria presenting with CNS involvement (cerebral malaria) warrants IV artesunate as first-line treatment.

Q169. (d) (Vascular anastomosis) . Damage control surgery focuses on stabilizing life-threatening injuries (e.g., bleeding control), not definitive procedures like vascular anastomosis.

Q170. (b) (Basal cell carcinoma) . Basal cell carcinoma appears as pearly nodules with central ulceration. It's common in older individuals with chronic sun exposure.

Q171. (a) (Bebtelovimab) . Bebtelovimab is a monoclonal antibody used in COVID-19, not in sickle cell anemia. The rest are used to reduce sickling and hemolysis.

Q172. (c) (A-3, B-2, C-1, D-4) . Canine erupts at 11–12 years, lateral incisor at 8–9 years, first molar at 6–7 years, and third molar between 17–25 years.

Q173. (b) (Upper part of right inferior lobe) . In supine position, aspirates gravitate into the posterior segment of the upper part of the right lower lobe.

Q174. (b) (A and C) . Initial management of suspected hollow viscus perforation includes fluid resuscitation (A) and exploratory laparotomy (C) to confirm and treat the cause.

Q175. (d) (1, 2, 3) . The limbic system includes amygdala and hippocampus primarily, but thalamus (especially anterior nucleus) is also functionally connected.

Q176. (b) (Low pH mainly activates lysosomal enzymes) . In shock, anaerobic metabolism leads to lactic acidosis, lowering pH, which activates lysosomal enzymes contributing to cellular injury.

Q177. (a) (It is exclusively given in the deltoid) . Rabies immunoglobulin is infiltrated around the wound site, not just into the deltoid. IM administration is used only for the remaining dose.

Q178. (a) (Aspergillus fumigatus) . Aspergillus species (depicted by the fungal cell wall) have septate hyphae with acute-angle branching.

Q179. (d) (A, C and D) . Oculocephalic reflex (doll's eye movement) involves the vestibular nerve (VIII) and motor output via cranial nerves III and VI.

Q180. (b) (2) . Diffuse type gastric carcinoma shows E-cadherin mutation; intestinal type is associated with Wnt/ β -catenin pathway; depth of invasion is critical for prognosis.

Q181. (a) (A, B) . The pelvic diaphragm is composed primarily of the levator ani group (iliococcygeus and pubococcygeus) and coccygeus.

Q182. (c) (1, 2, 3 and 5) . Management of infected pancreatic necrosis includes IV fluids, antibiotics, culture, and image-guided (assisted) drainage. Laparotomy is avoided unless necessary.

Q183. (b) (2, 4) . E. coli is the most common pathogen. Bowel-bladder dysfunction raises recurrence risk. MCU is indicated after recurrent infections.

Q184. (b) (Topical ocular carbonic anhydrase inhibitor) . Dorzolamide is used in glaucoma as a carbonic anhydrase inhibitor to reduce aqueous humor production, applied topically to the eye.

Q185. (d) (IL-4) . IL-4 is associated with Th2 response. Th1 cells secrete IFN-gamma and IL-2, while IL-12 promotes Th1 differentiation.

Q186. (c) (It is caused by activation of the Edinger-Westphal nucleus) . The pinpoint pupils seen in opioid intoxication are due to parasympathetic overactivity via the Edinger-Westphal nucleus.

Q187. (d) (Avascular necrosis) . Avascular necrosis often affects older adults and presents with groin/hip pain and gait disturbance as seen on the X-ray.

Q188. (b) (Multiparity) . Multiparity usually enhances uterine contractility, unlike neuraxial block or infection, which impair it.

Q189. (c) (1, 2, 3) . Younger age (<1 yr), lower peak fever (38–39°C), and shorter duration before seizure (<24 h) increase recurrence risk.

Q190. (d) (1, 2, 3, 6) . The wound is category 3 due to oozing. Washing (2), cleaning (3), and a complete vaccine schedule (6) are essential for management.

Q191. (d) (Human donor milk) . Human donor milk is preferred when mother's milk is unavailable, especially in LBW infants due to its immunological and nutritional advantages.

Q192. (c) (Amiodarone) . Amiodarone is contraindicated in certain arrhythmias like WPW syndrome with atrial fibrillation as it may worsen conduction.

Q193. (a) (Calcium) . Calcium activates phosphorylase kinase which in turn activates glycogen phosphorylase during muscle contraction.

Q194. (c) (Pneumomediastinum) . Hamman's sign (a crunching sound heard over the precordium) is a classic finding in pneumomediastinum.

Q195. (b) (NST and AFI) . Modified BPP includes the nonstress test (NST) and amniotic fluid index (AFI) as primary components to assess fetal well-being.

Q196. (c) (A-1, B-2, C-4, D-3) . Correct matching: Acetazolamide (Proximal tubule - 4), Torsemide (Thick ascending limb - 1), Chlorthalidone (Distal convoluted tubule - 3), Vasopressin (Collecting duct - 2). *Note: document numbering differs slightly in final explanation text.*

Q197. (d) (Median survival is 6 months) . Gallbladder carcinoma is aggressive with poor prognosis. Median survival for advanced cases is ~6 months.

Q198. (d) (4) . Antibody affinity increases in the secondary response due to affinity maturation. So, it's higher, not lower as stated in the table row 4.

Q199. (a) (2 and 4) . Tympanometry and speech audiometry are useful for middle ear assessment and speech perception when otoacoustic emissions is absent.

Q200. (c) (2, 3, 4) . Orthopnea, paroxysmal nocturnal dyspnea (waking with breathlessness), and hepatic congestion leading to RUQ pain are all signs of heart failure.

