

INI CET 2025 Answer Key PDF

Q1. (c) Cystic artery. Explanation: The hepatocystic triangle (Calot's triangle) is bounded by the cystic duct, the common hepatic duct, and the inferior border of the liver. The cystic artery is typically found *inside* the triangle but is not a boundary itself.

Q2. (a) Protracts and depresses the mandible. Explanation: This describes the primary action of the Lateral Pterygoid muscle.

Q3. (a) Glucose-6-phosphatase. Explanation: This clinical presentation (hepatomegaly, fasting hypoglycemia, and significant ketosis) is classic for Von Gierke disease (GSD Type I), which is caused by a deficiency in the enzyme glucose-6-phosphatase.

Q4. (a) Lactate is produced even in the presence of Oxygen. Explanation: This is known as the "Warburg Effect," where cancer cells preferentially perform aerobic glycolysis to produce energy and metabolic intermediates for rapid growth, even when oxygen is available.

Q5. (a) 18 years. Explanation: According to the Medical Termination of Pregnancy (MTP) Act in India, a woman must be at least 18 years old to provide her own valid consent for the procedure.

Q6. (b) 20-24 weeks. Explanation: The MTP (Amendment) Act, 2021, specifies that the opinion of one RMP is needed up to 20 weeks, while the opinion of two RMPs is required for terminations between 20 and 24 weeks for specific categories of women.

Q7. (c) 25 Hz. Explanation: Tetanization frequency is the reciprocal of the contraction time. If the contraction phase is 40 ms (0.040 seconds), the frequency required is $1 / 0.040 = 25$ Hz.

Q8. (b) Apicolateral. Explanation: Tight junctions (zonula occludens) are located at the most apical part of the lateral cell membranes of epithelial cells, acting as a barrier to seal the intercellular space.

Q9. (d) Biopsy under anesthesia to diagnose. Explanation: Biopsy is strictly contraindicated in Juvenile Nasopharyngeal Angiofibroma (JNA) because the tumor is extremely vascular and a biopsy can cause life-threatening hemorrhage. Diagnosis is usually clinical and radiological.

Q10. (a) Internal Laryngeal Nerve (ILN). Explanation: The internal laryngeal nerve provides sensory innervation to the mucosa of the larynx above the vocal folds, including the pyriform fossa.

Q11. (b) Trigeminal nerve. Explanation: The ophthalmic division (V1) of the trigeminal nerve provides the sensory supply to the eye and the orbital structures.

Q12. (b) Visual acuity less than 3/60 in the better eye after best possible correction.

Explanation: This is the international standard definition for blindness adopted by the WHO.

Q13. (b) 22.22%. Explanation: Incidence = (New cases) / (Population at risk). Since 10 children already had measles, they are not at risk. Population at risk = $100 - 10 = 90$. Incidence = $20 / 90 = 22.22\%$.

Q14. (a) 1-A, 2-B, 3-C, 4-D. Explanation: Matching vectors to diseases: Louse - Epidemic typhus; Tick - Rocky Mountain Spotted Fever; Mite - Scrub typhus; Poxvirus - Molluscum contagiosum.

Q15. (b) Barotrauma due to high airway pressure. Explanation: In patients on mechanical ventilation (especially for ARDS), high airway pressures can cause alveolar rupture (barotrauma), leading to a tension pneumothorax.

Q16. (c) Airway, breathing, and circulation (ABC) assessment. Explanation: Although a tension pneumothorax is a medical emergency requiring needle thoracostomy, the immediate first step in any emergency department management is a primary survey (ABC assessment).

Q17. (c) Hypercitraturia. Explanation: Citrate is a potent inhibitor of calcium stone formation. Therefore, *hypocitraturia* (low citrate) is a risk factor, while *hypercitraturia* (high citrate) is actually protective.

Q18. (a) Sensory disturbances. Explanation: Numbness, tingling, or paresthesia are among the most common earliest symptoms reported by patients with Multiple Sclerosis.

Q19. (c) Arthralgia & myalgia. Explanation: Joint and muscle symptoms are the most common clinical features of SLE, occurring in approximately 90% of patients during the course of the disease.

Q20. (d) Culture and Sensitivity. Explanation: While CB-NAAT is a rapid diagnostic tool, WHO considers Culture and Sensitivity the definitive gold standard for confirming spinal TB and determining drug resistance.

Q21. (a) Osteosarcoma. Explanation: A "Codman triangle" and "sunburst appearance" on X-ray in a teenager are classic diagnostic hallmarks of osteosarcoma.

Q22. (b) IV Steroids + cyclophosphamide. Explanation: "Wire loop lesions" on renal biopsy indicate diffuse proliferative lupus nephritis (Class IV), which requires aggressive induction therapy with steroids and cyclophosphamide.

Q23. (b) Gastroesophageal reflux disease (GERD). Explanation: Non-projectile, non-bilious vomiting in an infant with a normal abdominal exam is more likely to be GERD than pyloric stenosis (which typically presents with projectile vomiting and a palpable mass).

Q24. (b) Infundibular pulmonary stenosis. Explanation: The four components of Tetralogy of Fallot are: Ventricular septal defect (VSD), overriding aorta, right ventricular hypertrophy, and pulmonary stenosis (most commonly infundibular).

Q25. (b) Barotrauma due to high airway pressure. Explanation: Mechanical ventilation can lead to barotrauma, resulting in tension pneumothorax indicated by tracheal deviation and hypotension.

Q26. (c) Airway, breathing, and circulation (ABC) assessment. Explanation: The standard protocol for any emergency patient presenting with severe distress is to begin with the ABC assessment.

Q27. (c) Hypercitraturia. Explanation: Elevated levels of urinary citrate (hypercitraturia) prevent the formation of kidney stones.

Q28. (a) 20-24 weeks. Explanation: Per the 2021 MTP amendment, two medical practitioners are required to approve a termination between 20 and 24 weeks.

Q29. (c) Dinoprostone. Explanation: Oxytocin, Carboprost, and Misoprostol are all standard uterotonic agents used to treat postpartum hemorrhage. Dinoprostone is primarily used for cervical ripening and induction of labor.

Q30. (a) Neostigmine. Explanation: Neostigmine is an acetylcholinesterase inhibitor used to reverse the skeletal muscle relaxation caused by non-depolarizing agents like vecuronium.

Q31. (a) Rapid redistribution. Explanation: Sodium thiopentone's ultra-short duration of action is due to its rapid redistribution from the highly vascular brain to other tissues like muscle and fat.

Q32. (a) a, b, c. Explanation: Topical corticosteroid use is associated with skin atrophy, acneiform eruptions, and hypertrichosis (increased hair growth).

Q33. (d) 1, 3. Explanation: The epidermis originates from the ectoderm and can regenerate from the epithelial cells of hair follicles and sebaceous glands. The stratum corneum is the outermost dead layer, and the dermis originates from the mesoderm.

Q34. (a) Ketamine. Explanation: Sub-anesthetic doses of Ketamine have been recently approved as rapidly acting treatments for treatment-resistant depression.

Q35. (a) Both have anticholinergic action. Explanation: Imipramine and Diphenhydramine both possess strong anticholinergic properties; combining them increases the risk of toxic side effects.

Q36. (a) CT scan. Explanation: CT scans utilize ionizing radiation, which is potentially teratogenic and is generally contraindicated during pregnancy.

Q37. (b) MRI. Explanation: MRI is the imaging investigation of choice for spinal tuberculosis because it provides superior detail of the bone, discs, and neural structures.

Q38. (b) Vibrio parahaemolyticus. Explanation: The Kanagawa phenomenon is a specific type of hemolysis on Wagatsuma agar that identifies pathogenic strains of *Vibrio parahaemolyticus*.

Q39. (a) Serology. Explanation: For a patient with a history of unprotected sex several months ago, serological testing is the most appropriate method to screen for chronic infections.

Q40. (a) Von Willebrand Disease. Explanation: Von Willebrand Disease is the most common inherited bleeding disorder, affecting approximately 1% of the population.

Q41. (c) TP53 - Mucosal Neuroma. Explanation: TP53 is associated with various cancers, but Mucosal Neuromas are specifically associated with mutations in the RET proto-oncogene (MEN 2B).

Q42. (a) Serous ovarian tumor. Explanation: Ascites, omental caking, a solid adnexal mass, and elevated CA-125 are classic indicators of serous ovarian cancer.

Q43. (b) b, c, d. Explanation: Thalidomide is used for Multiple Myeloma and Type 2 lepra reactions (ENL) and is highly teratogenic. It is not an antimetabolite.

Q44. (b) b, c, d. Explanation: Bempedoic acid inhibits cholesterol biosynthesis by inhibiting ATP citrate lyase. It is a dicarboxylic acid used as an adjunct to statins.

Q45. (b) 1-C, 2-A, 3-D, 4-B. Explanation: According to the Drugs and Cosmetics Rules: Insulin is Schedule G, Hepatitis B vaccine is Schedule H, Morphine is Schedule X, and Veterinary drugs are Schedule B/Z.