

INI CET 2023 Answer Key PDF

Q1. (a,b,c,d) (Matched as listed in Ans) .Incubation periods represent the time from exposure to the onset of symptoms; the provided values for Syphilis, SARS CoV2, Chickenpox, and Hepatitis A match standard medical literature.

Q2. (b) Neisseria meningitidis .The image shows a Gram-negative cell wall with a label for "Lipooligosaccharide" (LOS), which is a specific structural hallmark of Neisseria species compared to the Lipopolysaccharide (LPS) found in most other Gram-negative bacteria.

Q3. (c) CENTROMERIC .The immunofluorescence image shows discrete green speckles within the nuclei of interphase cells and alignment on the metaphase plate in dividing cells, which is diagnostic of the anti-centromere antibody pattern.

Q4. (b) Hyaline cap thickness >2 cm .In an adult, a cartilage (hyaline) cap thickness exceeding 2 cm on an osteochondroma is the most reliable radiological indicator of malignant transformation into a chondrosarcoma.

Q5. (a) Choledocholithiasis .The MRCP (Magnetic Resonance Cholangiopancreatography) image shows multiple low-signal filling defects within a dilated common bile duct, representing gallstones.

Q6. (d) In young females with dense breast .While all listed options are benefits of ultrasound, USG is specifically indicated as the primary imaging modality for young females with dense breast tissue because mammography has low sensitivity in these patients.

Q7. (b) 3,4,5,6 .By counting downwards from the first rib, the fracture lines are clearly visible in the 3rd, 4th, 5th, and 6th ribs on the patient's left side within the highlighted circle.

Q8. (c) A4, B1, C2, D3 .This match identifies the clinical symptoms caused by compression: Trachea (Dyspnea), Oesophagus (Dysphagia), Recurrent Laryngeal Nerve (Hoarseness), and Sympathetic Chain (Horner's Syndrome).

Q9. (a) Thickness of cartilaginous cap > 2 cm on MRI .Consistent with Q4, a cartilage cap thicker than 2 cm is the most significant radiological sign that an osteochondroma is undergoing malignant transformation in an adult.

Q10. (c) Phrygian cap .The ultrasound shows a fold in the fundus of the gallbladder, a common and benign anatomical variation known as a Phrygian cap.

Q11. (b) Spina bifida .The "banana sign" refers to the shape of the cerebellum on fetal ultrasound when it is displaced downward into the foramen magnum, which is a characteristic finding in open neural tube defects.

Q12. (a) Amoebic abscess .Fever, right upper quadrant pain, and a solitary hypoechoic lesion in the posterior-superior aspect of the right liver lobe are classic for an amoebic liver abscess.

Q13. (c) Molybdenum .Molybdenum is an essential trace element that serves as a cofactor for xanthine oxidase; its deficiency prevents the conversion of xanthine to uric acid.

Q14. (a) Lysosomal alpha glucosidase .Pompe disease (Glycogen Storage Disease Type II) is caused by a deficiency of acid alpha-glucosidase, which is required to break down glycogen within lysosomes.

Q15. (a) B6 .In Vitamin B6 (pyridoxine) deficiency, the metabolism of tryptophan is diverted, leading to the excretion of xanthurenic acid in the urine.

Q16. (c) 28 .Assuming a typo in the provided values (where Cl should likely be 103), the anion gap is calculated as $[Na+K] - [Cl+HCO_3]$, which equals 28.

Q17. (b) Low Ferritin .Although all options are features of Iron Deficiency Anaemia, a low serum ferritin level is the most sensitive and specific laboratory indicator of depleted body iron stores.

Q18. (c) 5'UAGUAAUAACG3' .RNA is synthesized 5' to 3' complementary to the template strand; since the template is given 5' to 3', the RNA sequence is the complement of the template read in the reverse direction.

Q19. (c) Highest for proteins .The thermic effect of food (the energy required for digestion and absorption) is highest for proteins (20-30%) compared to carbohydrates and fats.

Q20. (a) Phenylalanine is the most abundant amino acid .This statement is false; Glycine is the most abundant amino acid in collagen, representing approximately one-third of the total amino acid content.

Q21. (b) Chloride .Salty sweat is the classic clinical sign of Cystic Fibrosis, which is caused by a defect in the CFTR protein, a cAMP-activated chloride channel.

Q22. (b) Rothera's test .Rothera's test is used to detect ketone bodies in the urine; a positive result is indicated by the formation of a purple or permanganate-colored ring at the junction of the fluids.

Q23. (d) Cardiolipin .Barth syndrome is an X-linked genetic disorder caused by a deficiency in cardiolipin, a phospholipid essential for the structure and function of the inner mitochondrial membrane.

Q24. (c) Short arm of chromosome Y .The SRY (Sex-determining Region Y) gene is located on the short arm (p arm) of the Y chromosome.

Q25. (a) Hypokalemia .Massive blood transfusion typically results in hyperkalemia (due to potassium release from stored red cells) and hypocalcemia (due to citrate binding).

Q26. (c) Metabolic alkalosis .Severe vomiting leads to the loss of hydrochloric acid and potassium from the stomach, resulting in hypochloremic, hypokalemic metabolic alkalosis.

Q27. (b) Thiophorase .The liver is unable to utilize the ketone bodies it produces because it lacks the enzyme thiophorase (succinyl-CoA:3-ketoacid CoA-transferase).

Q28. (b) Leptin .Leptin receptors signal through the JAK-STAT (Janus Kinase - Signal Transducer and Activator of Transcription) pathway.

Q29. (d) MRP2 .Cholestasis can be caused by defects in the MRP2 (Multidrug Resistance-associated Protein 2) transporter, which is responsible for the secretion of conjugated bilirubin into bile.

Q30. (c) Superior vena cava syndrome .While thyroid swelling commonly causes hoarseness, dysphagia, and dyspnea via local compression, Superior Vena Cava (SVC) syndrome is much rarer and typically associated with malignant mediastinal masses.

Q31. (b) Wernicke's aphasia/auditory neuropathy .The ability to hear sound but inability to understand meaning despite normal peripheral hearing tests (PTA and ABR) suggests a central receptive language disorder or auditory processing defect.

Q32. (c) Frontal fibrosing alopecia .Frontal fibrosing alopecia is a form of primary scarring (cicatricial) alopecia, whereas the other options are examples of non-scarring hair loss.

Q33. (b) Pityriasis Rosea .The image shows multiple oval, scaly plaques distributed in a "Christmas tree" pattern on the back, which is diagnostic of Pityriasis Rosea.

Q34. (d) Statement 1 and 2 are correct and 2 is the correct explanation for 1 .The "row of tombstones" appearance refers to the basal layer remaining attached to the basement membrane during the suprabasal acantholytic split seen in Pemphigus Vulgaris.

Q35. (b) Bullous Pemphigoid .Subepidermal blistering with linear IgG and C3 deposition along the basement membrane zone is the classic finding for Bullous Pemphigoid.

Q36. (a) Erythema infectiosum .The "slapped cheek" appearance is the characteristic clinical sign of Erythema infectiosum (Fifth Disease), caused by Parvovirus B19.