

Chemical Examination of Urine

Medical Laboratory Science · Practice Test · 30 Questions

1. Which urine parameters are reported qualitatively, except for pH and SG?

- A) Protein and Glucose
- B) Bilirubin and Ketones
- C) All parameters are reported qualitatively
- D) Urobilinogen and Ketones

2. How is 'TRACE' reported for urine tests?

- A) Negative
- B) Positive
- C) +/-
- D) TRACED

3. What is the normal range for urobilinogen in mg/dL?

- A) 0.2 to 1.0
- B) 1.0 to 2.0
- C) 0.0 to 0.2
- D) Greater than 1.0

4. What is considered an abnormal concentration of urobilinogen?

- A) Less than 0.2 mg/dL
- B) Exactly 1.0 mg/dL
- C) Greater than 1.0 mg/dL
- D) 0.2 to 1.0 mg/dL

5. Which of the following is NOT a learning outcome for the chemical examination of urine session?

- A) Identify tests for protein, sugars, bilirubin, ketones, and urobilinogen.
- B) Explain the principles behind the tests.
- C) Analyze how these tests support reagent strip testing.
- D) Perform venipuncture for urine collection.

6. Ascorbic acid is known to interfere with which reagent strip parameters by causing false negatives?

- A) Glucose and Blood
- B) Nitrite and Bilirubin
- C) Leukocyte, Glucose, Blood, Nitrite, and Bilirubin
- D) Ketones and Urobilinogen

7. What is the detection limit for ascorbic acid in reagent strip testing?

- A) 10 mg/dL
- B) 20 mg/dL
- C) 5 mg/dL
- D) 50 mg/dL

8. Which of the following tests is used for the early diagnosis of diabetic nephropathy?

- A) Heat and Acetic Acid Test
- B) Sulfosalicylic Acid Precipitation Test
- C) Microalbumin Test
- D) Microalbumin-Creatinine Ratio

9. In the Micral Test for microalbumin, a darker bottom band indicates what result?

- A) Positive
- B) Borderline
- C) Negative
- D) High concentration

10. What is the principle behind the ImmunoDip Test for microalbumin?

- A) Heat precipitation
- B) Chemical reaction with nitroprusside
- C) Immunochromatography
- D) Reduction of copper sulfate

11. The Albumin:Creatinine Ratio is computed by an analyzer using which two pads?

- A) Albumin and Glucose pads
- B) Albumin and Creatinine pads
- C) Creatinine and Bilirubin pads
- D) Albumin and Ketone pads

12. Which test involves adding 3 mL of 3% SSA to 3 mL of urine, performed on centrifuged specimens?

- A) Heat and Acetic Acid Test
- B) Sulfosalicylic Acid (SSA) Test
- C) Cold Precipitation Test
- D) Microalbumin Test

13. The Heat and Acetic Acid Test is used to detect what in urine?

- A) Protein
- B) Ketones
- C) Reducing Sugars
- D) Bilirubin

14. Which test uses Seliwanoff's Reagent (Fructose Resorcinol Test) to detect reducing sugars?

- A) Galactose Mucic Acid Test
- B) Rubner's Test
- C) Fructose Resorcinol Test
- D) Benedict's Test

15. Hereditary Fructose Intolerance is associated with a deficiency in which enzyme?

- A) Galactose-1-phosphate uridyl transferase
- B) Galactokinase
- C) Aldolase B (F1P Aldolase)
- D) Lactase

16. The Mucic Acid Test (Nitric Acid) is used to detect which reducing sugar?

- A) Fructose
- B) Galactose
- C) Lactose
- D) Glucose

17. Galactosemia Type I is associated with a deficiency of which enzyme?

- A) Galactokinase
- B) Galactose-1-phosphate uridyl transferase
- C) Aldolase B
- D) Lactase

18. Rubner's Test (Lead Acetate + NH₄OH) is used to detect which reducing sugar?

- A) Fructose
- B) Galactose
- C) Lactose
- D) Glucose

19. Which test is based on Benedict's Test principle and detects reducing sugars?

- A) Clinitest
- B) Acetest
- C) Ictotest
- D) Watson-Schwartz Test

20. What is the reaction occurring in Benedict's Test (and Clinitest)?

- A) Oxidation of reducing sugar by copper sulfate
- B) Reduction of copper sulfate to cuprous oxide with alkali and heat
- C) Reaction of diazo salt with reducing sugar
- D) Precipitation of protein by SSA

21. The 'Pass-through Phenomenon' in Clinitest involves the color changing from orange back to green-brown, indicating what?

- A) Low concentration of reducing substances
- B) High concentration of reducing substances
- C) Presence of protein
- D) Absence of reducing substances

22. Which test is a tablet nitroprusside reaction utilized for urine samples that are highly pigmented?

- A) Ictotest
- B) Acetest
- C) Clinitest
- D) Watson-Schwartz Test

23. What is the primary purpose of lactose and glycine in the Acetest tablet?

- A) To detect ketones
- B) To improve color differentiation
- C) To act as a catalyst
- D) To precipitate protein

24. Which test is a confirmatory test for bilirubin and contains p-nitrobenzenediazonium-p-toluenesulfonate?

- A) Acetest
- B) Ictotest
- C) Clinitest
- D) Hoesch Test

25. The Ictotest tablet can detect bilirubin at concentrations as low as:

- A) 0.05 to 0.1 mg/dL
- B) 0.1 to 0.2 mg/dL
- C) 0.2 to 0.5 mg/dL
- D) Greater than 0.5 mg/dL

26. Which test differentiates urobilinogen from porphobilinogen by exploiting their solubility in chloroform and butanol?

- A) Hoesch Test
- B) Watson-Schwartz Test
- C) Blondheim's Test
- D) Prussian Blue Stain

27. According to the Watson-Schwartz Test, urobilinogen is soluble in both chloroform and butanol, while porphobilinogen is:

- A) Soluble in both
- B) Soluble in chloroform but not butanol
- C) Insoluble to both chloroform and butanol
- D) Insoluble to butanol but soluble to chloroform

28. The Hoesch Test is used to screen for which substance, indicated by the appearance of a red color?

- A) Urobilinogen
- B) Porphobilinogen
- C) Hemosiderin
- D) Myoglobin

29. What is the approximate detection limit of the Hoesch Test for porphobilinogen?

- A) 2 mg/dL
- B) 5 mg/dL
- C) 10 mg/dL
- D) 20 mg/dL

30. Which of the following is NOT listed as a reference for urinalysis and body fluid analysis?

- A) Fundamentals of Urine & Body Fluid Analysis 5th Edition by Brunzel
- B) Henry's Clinical Diagnosis and Management by Laboratory Methods 22nd Edition by McPherson and Pincus
- C) Urinalysis and Body Fluids 7th Edition by Strasinger
- D) The Merck Manual of Diagnosis and Therapy