



Class: XII

Time Allowed: 20 minutes

MODEL EXAMINATION PAPER 2026

SUBJECT: CLINICAL PATHOLOGY & SEROLOGY
SECTION "A" (MULTIPLE CHOICE QUESTIONS)

Marks 17

Q1: Attempt **ALL** questions. Each question carries **ONE** mark.

1. An invalid result on a urine test strip is indicated when:
 - A. Only the test line appears
 - B. Both control and test lines appear
 - C. No control line appears
 - D. The test line is darker than the control line
2. Which of the following medications, if continued, is most likely to cause falsely elevated glucose levels during a GTT?
 - A. Paracetamol
 - B. Prednisolone (a corticosteroid)
 - C. Oral iron supplements
 - D. Vitamin B₁₂
3. What is the typical pH range of normal gastric juice during fasting?
 - A. 1.3-3.5
 - B. 3.5-7
 - C. 7.5-10
 - D. 10.2-13
4. For an adult oral glucose tolerance test, the standard glucose dose is:
 - A. 50 g
 - B. 60 g
 - C. 75 g
 - D. 100 g
5. The presence of malignant epithelial cells in CSF is a characteristic of:
 - A. Carcinomatous meningitis
 - B. Viral meningitis
 - C. Syphilis
 - D. Tuberculous meningitis
6. Which equipment is used to separate plasma from blood?
 - A. Water bath
 - B. Incubator
 - C. Centrifuge
 - D. Hot plate
7. Absence of intrinsic factor may lead to:
 - A. Iron-deficiency anemia
 - B. Hemolytic anemia
 - C. Aplastic anemia
 - D. Megaloblastic anemia
8. The main purpose of a urine culture test is to:
 - A. Measure urine volume
 - B. Detect glucose in urine
 - C. Check kidney filtration rate
 - D. Identify bacteria causing urinary tract infection
9. The detection of oligoclonal bands in CSF is suggestive of:
 - A. Viral infection
 - B. Bacterial infection
 - C. Subarachnoid hemorrhage
 - D. Multiple sclerosis
10. The recommended fasting period before starting a GTT is:
 - A. 4-6 hrs
 - B. 6-8 hrs
 - C. 8-14 hrs
 - D. 24 hrs
11. Medications should be stopped how long before performing gastric analysis?
 - A. 12-24 hours
 - B. 24-36 hours
 - C. 48-72 hours
 - D. 7 days
12. The glucose dipstick test is based on which enzyme reaction?
 - A. Urease-peroxidase
 - B. Catalase-reductase
 - C. Glucose oxidase-peroxidase
 - D. Sucrase-oxidase
13. Which type of cell is responsible for secreting hydrochloric acid in the stomach?
 - A. Chief cells
 - B. Mucous cells
 - C. Parietal cells
 - D. G cells
14. Which of the following is the ideal time frame to analyze a urine sample after collection?
 - A. After 24 hours
 - B. Within 2 hours
 - C. Within 6 hours
 - D. After refrigeration for 12 hours
15. Xanthochromia in CSF indicates:
 - A. Glucose elevation
 - B. Subarachnoid hemorrhage
 - C. Bacterial infection
 - D. Viral meningitis
16. Serology is best defined as the study of:
 - A. Cellular immunity
 - B. Antigen-antibody reactions in serum
 - C. Blood gas analysis
 - D. Coagulation pathways
17. HbA1c stands for:
 - A. Glycated Hemoglobin
 - B. Hemoglobin A
 - B. Hemoglobin acid 1
 - D. Hemoglobin A Carbon dioxide

Practical Based Assessment (PBA)

Marks 15

Q2: Attempt **ALL** questions. Each question carries **ONE** marks.

18. What is the correct precaution when using a centrifuge?
 - A. Load unbalanced tubes for faster spinning
 - B. Open lid immediately after stopping
 - C. Balance tubes before loading and wait until the centrifuge comes to a complete stop
 - D. Use without setting speed and time
19. Cloudy urine with a foul smell most likely indicates:
 - A. Dehydration
 - B. Liver disease
 - C. Urinary tract infection
 - D. Diabetes insipidus

20. Which enzyme in gastric juice breaks down proteins?
A. Trypsin B. Lipase C. Pepsin D. Amylase
21. Which of the following may result in a false-negative pregnancy test?
A. Testing too early B. Using a contaminated sample
B. Reading the result after 10 minutes D. All of the above
22. Which of the following urine volumes indicates oliguria?
A. 3000 mL/day B. 1500 mL/day C. 100 mL/day D. 350 mL/day
23. A light-sensitive reagent should be stored in:
A. Clear plastic bottles
B. Amber bottles kept in dark cabinets
C. Open beakers on a shelf
D. Freezer without labeling
24. A patient's gastric juice has no free HCl and contains lactic acid. What condition is likely?
A. Peptic ulcer B. Gastric carcinoma C. Duodenal ulcer D. Gastroenteritis
25. The most reliable urine sample for a pregnancy test is:
A. Afternoon sample B. First-morning urine C. Random sample D. Night sample
26. Which of the following urine volumes indicates polyuria?
A. 3000 mL/day B. 1500 mL/day C. 100 mL/day D. 350 mL/day
27. What is the most appropriate method for collecting blood samples for laboratory diagnosis?
A. Finger prick B. Venipuncture C. Midstream catch D. Grab sampling
28. Which of the following is a normal CSF finding?
A. Turbid appearance
B. High protein and low glucose
C. Clear, colorless fluid with 0–5 WBCs/ μ L
D. Yellow fluid with clot formation
29. Why is glassware rinsed with distilled water after cleaning?
A. To add minerals
B. To sterilize
C. To remove any leftover detergent or chemicals
D. To make it look shiny
30. The presence of ketone bodies in urine may indicate:
A. Diabetes mellitus B. Hypertension C. UTI D. Liver cirrhosis
31. In a well-managed laboratory, acids and bases should be stored:
A. Together in one cabinet
B. Separately in ventilated cabinets
C. In the refrigerator
D. On open shelves
32. What is the main difference between deionized and distilled water?
A. Distilled water contains more ions
B. Deionized water is free from all physical impurities
C. Distilled water is produced by boiling; deionized water is produced by ion exchange
D. Deionized water contains more organic matter

END OF SECTION A

Class: XII

MODEL EXAMINATION PAPER 2026

Time: 2 hours 40 minutes **SUBJECT: CLINICAL PATHOLOGY & SEROLOGY**
SECTION "B" AND SECTION "C"
SECTION "B" SHORT ANSWER QUESTIONS**Total Marks 68**
36 Marks**Q3:** Answer any **NINE** questions from this section. All questions carry equal marks.

- i. What are the four normal cellular components of cerebrospinal fluid?
- ii. What is pleocytosis? Mention any two conditions in which it may occur.
- iii. List four common types of urine samples and state their specific uses.
- iv. List four steps for collecting and storing a blood sample.
- v. Mention any two general considerations for pregnancy test analysis with reasons.
- vi. What is pre-test screening and what are the contraindications before performing gastric analysis?
- vii. Mention two side effects or risks that patients might experience during a Glucose Tolerance Test (GTT) and state how the healthcare team should manage each.
- viii. Classify the patient as diabetic and non-diabetic on the basis of FBS and RBS levels.
- ix. Describe two clinical conditions other than normal pregnancy where elevated hCG levels may be observed.
- x. Write the procedure for performing an immunological pregnancy test.
- xi. Define serological testing and state two major clinical situations where serology is preferred over blood culture test.
- xii. List patient instructions regarding medications or lifestyle restrictions that must be followed before gastric acid testing.

SECTION "C" DETAILED ANSWER QUESTIONS**32 Marks****Q4:** Answer any **TWO-PART** questions from this section. All questions carry equal marks. Your answer should not exceed 30 – 40 lines.

- i. a) Describe the comprehensive patient preparation protocols for gastric analysis.
b) Describe the physical examination of urine, explaining test components and its clinical significance.
- ii. a) Discuss the clinical interpretation of GTT by comparing normal, impaired, and diabetic glucose tolerance.
b) Explain the role of CSF examination in the diagnosis and monitoring of various diseases. Include differential diagnosis based on CSF cellular profiles.
- iii. a) Discuss the physiological functions of different gastric secretions.
b) Explain five major sources of error in performing a GTT and describe the strategies to minimize their impact on diagnostic accuracy.

END OF PAPER