website www.jaypeebrothers.com, for detailed information on laboratory medicine books, visit our website www.jaypeebrothers.com

Celebrating 50 YEARS
Passion, Quality and Innovation in Healthcare Publishing

# MCQs in Medical Laboratory Technology



2nd Edition

Ramnik Sood

JAYPEE

# Contents


| | | |
|---|---|---|
| 1. | Laboratory Introduction | 1 |
| 2. | Sterilization | 10 |
| 3. | SI Units | 13 |
| 4. | Fundamental Chemistry | 16 |
| 5. | Urine Analysis | 18 |
| 6. | Renal Function and its Evaluation | 31 |
| 7. | Stool Examination | 34 |
| 8. | Medical Parasitology | 40 |
| 9. | Clinical Hematology | 47 |
| 10. | Bleeding Disorders | 67 |
| 11. | Immunohematology | 73 |
| 12. | CSF and Other Body Fluids | 78 |
| 13. | Semen Analysis | 87 |
| 14. | Sputum Examination | 91 |
| 15. | Pregnancy Tests | 97 |
| 16. | Examination of Gastrointestinal Contents | 102 |
| 17. | Diabetes Mellitus—Laboratory Diagnosis | 107 |
| 18. | Liver Function Tests | 112 |
| 19. | Clinical Chemistry | 115 |
| 20. | Enzymology | 135 |
| 21. | Blood Gases and Electrolytes | 143 |
| 22. | Serology/Immunology | 149 |
| 23. | Diagnostic Immunology | 163 |
| 24. | Endocrinology | 171 |
| 25. | Histopathology | 182 |
| 26. | Cytology | 185 |

**27. Bacteriology** **190**
**28. Mycology** **199**
**29. Diagnostic Skin Tests** **202**
**30. Cytogenetics** **206**
**31. Molecular Pathology/Diagnostics** **212**
**32. Laboratory Safety/Security** **220**
**33. Biocides** **236**
**34. Waste management** **242**

CHAPTER

# 4 Fundamental Chemistry

JAYPEE BROTHERS

**Match the following indicators with their pH ranges:**

| | |
|---|---|
| **1. Litmus** | A. 5.5–8.0 |
| **2. Phenolphthalein** | B. 8.0–9.8 |
| **3. Methyl red** | C. 4.2–6.3 |
| **4. Methyl orange** | D. 3.1–4.4 |
| **5. Phenol red** | E. 6.8–8.4 |
| **6. Bromothymol blue** | F. 6.0–7.6 |

**7. What is not true about buffer solutions?**

A. At any given temperature these solutions retain their definite pH
B. They maintain their pH even after adding considerable amounts of acids or alkalies
C. These solutions generally consist of a weak acid mixed with its sodium or potassium salt
D. These solutions generally consist of a strong acid mixed with its calcium or lithium salt

**8. Percent solutions are not usually expressed as:**

A. W/W B. W/V
C. V/V D. Normal solutions

**9. Molar solutions take into consideration:**

A. Atomic weights B. Valence
C. Molecular weight D. Solution in 100 mL of solvent

**10. What is true about normal solutions?**

A. A normal solution is one which contains the gram equivalent weight (equivalent weight in grams) of a substance per liter of solution
B. A normal solution is one which contains the mg equivalent weight (equivalent weight in mg) of a substance per liter of solution

C. A normal solution is one which contains the gram equivalent weight (equivalent weight in grams) of a substance per 100 cc of solution
D. None of the above

**11. Which of the following statements is true?**
A. The equivalent weight of an element is calculated by dividing the atomic weight by the valency
B. The equivalent weight of an acid is the weight of it in grams which contains 1.008 g (one atomic weight) of replaceable hydrogen
C. Equivalent weight of an alkali is that weight of it which will neutralize the equivalent weight of an acid
D. All of the above

**Match the following in relation to periodic table and atoms:**

| | |
|---|---|
| **12. Groups in periodic table** | A. 102 |
| **13. Lanthanoids** | B. 8 |
| **14. Actinoids** | C. 101 |
| **15. Number of carbon isotopes** | D. 2 |
| **16. Atomic number of oxygen** | E. 18 |

**Match the following in relation to indicators:**

| | |
|---|---|
| **17. Litmus** | A. Red in acidic solution |
| **18. Phenol red** | B. Yellow in alkaline solution |
| **19. Methyl red** | C. Blue in alkaline solution |
| **20. Methyl orange** | D. Orange in alkaline solution |

**Match the following atomic weights with their elements:**

| | |
|---|---|
| **21. Carbon** | A. 40 |
| **22. Oxygen** | B. 1 |
| **23. Hydrogen** | C. 12 |
| **24. Chlorine** | D. 16 |
| **25. Calcium** | E. 35.4 |

## ANSWERS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. A | 2. B | 3. C | 4. D | 5. E | 6. F | 7. D | 8. D |
| 9. C | 10. A | 11. D | 12. E | 13. C | 14. A | 15. D | 16. B |
| 17. B | 18. C | 19. A | 20. D | 21. C | 22. D | 23. B | 24. E |
| 25. A | | | | | | | |

JAYPEE BROTHERS

for detailed information on laboratory medicine books, visit our website www.jaypeebrothers.com, for detailed information on laborator

# MCQs in Medical Laboratory Technology

***Salient Features***

- Any book is known by its contents, ease of understanding, digestibility of the presented matter, utility without boundaries and retainability of the subject for long durations. Also what matters is the standing of the author in the field concerned.
- This book within its covers presents laboratory medicine from historical aspects right till the current technologies. So you will find erythrocyte sedimentation rate (ESR) and also polymerase chain reaction (PCR) and all that has come in between.
- Molecular pathology has been adequately presented as it is now the ultimate golden tool available to laboratory specialists.
- Methods as well as interpretations are presented as multiple choice questions (MCQs) with answers at the end of the chapter for easy reference.
- No aspect of medical laboratory technology has been left out!
- Just flip a few pages, you would want to read at one GO!
- Lastly, the book is appearing after the emergence of COVID-19, so, even this too has been incorporated in appropriate chapters. Laboratory safety and security is of paramount importance and the same has not been ignored.

Happy reading!

**Available at all medical bookstores**
**or buy online at www.jaypeebrothers.com**




**JAYPEE BROTHERS**
**Medical Publishers (P) Ltd.**
**www.jaypeebrothers.com**

Join us on facebook.com/JaypeeMedicalPublishers

Shelving Recommendation
**LABORATORY MEDICINE**

