Chapter 1: Introduction to Hematology and Basic Laboratory Practice

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Tube length when referring to the microscope is the:
a. Resolution power of the objective
b. Distance from the eyepiece to the objective
c. Numerical aperture
d. Magnitude of the image on the stage

____ 2. What is the most useful corrective action for the microscope when fine details cannot be visualized in immature cells?
a. Open up diaphragm for maximum light.
b. Wipe off lenses with lens cleaner.
c. Get a new slide.
d. Move to a lower power.

____ 3. Which of the following behaviors is a violation of standard precautions?
a. Handwashing after glove removal
b. Use of impermeable laboratory gowns
c. Use of goggles and face shields
d. Placing laboratory notebooks on laboratory work area

____ 4. Standards and calibrators differ from control materials because:
a. An exact amount of analyte is present in a standard or calibrator
b. A variable amount of analyte is present depending on patient samples
c. Standards only need to be within a target range
d. Standards are run to the best estimate of the known value

____ 5. If the confidence interval for most laboratories is 95.5%, what is the acceptable range for hemoglobin if a hemoglobin control was run with a mean of 12.5 and a standard deviation of 1.0?
a. 9.5 to 12.5
b. 10.5 to 14.5
c. 11.5 to 15.5
d. 10.0 to 13.5

____ 6. Proper mixing of samples and timely delivery of samples to the laboratory are both examples of:
a. Delta checks
b. Postanalytic variables
c. Preanalytic variables
d. Reflex testing

____ 7. A delta check is a historical reference on samples run in the laboratories. Once a sample fails a delta check, the most obvious corrective action is to:
a. Verify the identification of the patient sample
b. Reestablish the parameters of the delta check
c. Perform reflex testing

d. Perform a manual method

____ 8. Which of the following is the definition of a reference interval?
a. A solution of a known amount of analyte
b. Materials analyzed concurrently with unknown samples
c. Values established for a particular analyte, given a method, instrument, or patient population
d. Validation techniques on flagged samples

____ 9. Which of the following is *not* considered a postanalytic variable?
a. Delta checks
b. Proper anticoagulant used
c. Specimen checked for clots
d. Critical results called

____ 10. Error analysis, standard protocols, and turnaround time are all part of the:
a. Quality assurance system
b. Quality control program
c. Reference standards
d. Delta check protocol

____ 11. The average of a group of data points is defined as the:
a. Mean
b. Mode
c. Median
d. Modicum

____ 12. Safety training is part of new employee training in health care and includes:
a. Biological hazards
b. Chemical hazards
c. Environmental hazards
d. All of the above

____ 13. Control materials are:
a. Analyzed concurrently with the unknown samples
b. Substances with a known amount of analyte
c. Used to calibrate the method
d. All of the above

____ 14. Delta checks are used in the hematology laboratory to:
a. Compare past patient results to the current result
b. Verify control accuracy
c. Establish a target range
d. Establish reference ranges for a particular analyte

____ 15. When handwashing after a patient contact, the soap application process should last at least:
a. 5 seconds
b. 15 seconds
c. 20 seconds

d. 30 seconds

____ 16. Which of the following represents an example of a safety violation in the laboratory?
a. Application of cosmetics
b. Mouth pipetting
c. Consuming bottled water
d. All the above

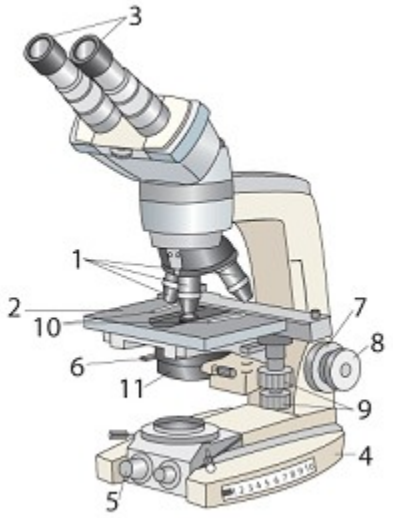
True/False
Indicate whether the statement is true or false.

____ 17. Standard deviation is a measurement of precision.

____ 18. Accuracy is a measurement of the true value of an analyte.

____ 19. A normal distribution curve will have 99.7% of the measured values fall within 2 SDs.

Short Answer



20. Label the parts of the microscope.

Chapter 1: Introduction to Hematology and Basic Laboratory Practice
Answer Section

MULTIPLE CHOICE

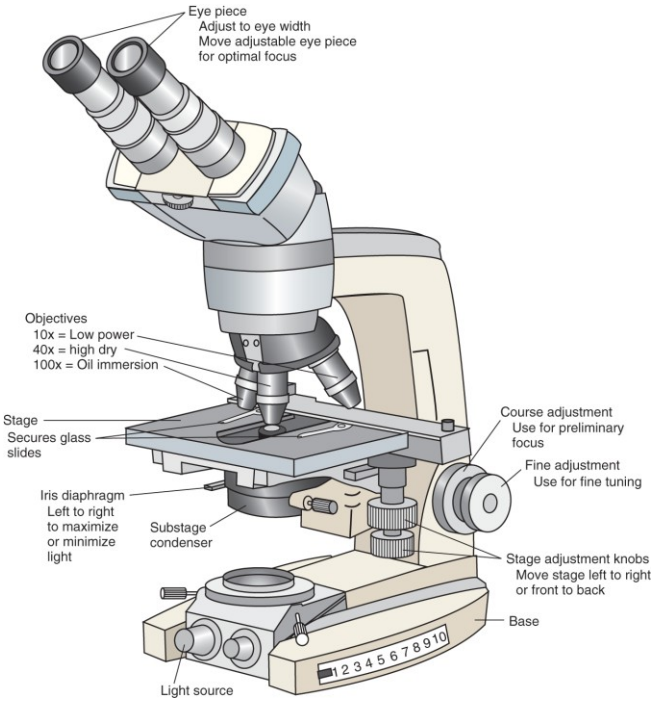
1. ANS: B PTS: 1
2. ANS: A PTS: 1
3. ANS: D PTS: 1
4. ANS: A PTS: 1
5. ANS: B PTS: 1
6. ANS: C PTS: 1
7. ANS: A PTS: 1
8. ANS: C PTS: 1
9. ANS: B PTS: 1
10. ANS: A PTS: 1
11. ANS: A PTS: 1
12. ANS: D PTS: 1
13. ANS: A PTS: 1
14. ANS: A PTS: 1
15. ANS: B PTS: 1
16. ANS: D PTS: 1

TRUE/FALSE

17. ANS: T PTS: 1
18. ANS: T PTS: 1
19. ANS: F PTS: 1

SHORT ANSWER

20. ANS:
    1. Objectives
    2. Stage
    3. Eye piece
    4. Base
    5. Light source
    6. Iris diaphragm
    7. Course adjustment knob
    8. Fine adjustment knob
    9. Stage adjustment knobs
    10. Clips
    11. Substage condenser


Eye piece
Adjust to eye width
Move adjustable eye piece
for optimal focus
Objectives
10x = Low power
40x = high dry
100x = Oil immersion
Stage
Secures glass
slides
Iris diaphragm
Left to right
to maximize
or minimize
light
Substage
condenser
Course adjustment
Use for preliminary
focus
Fine adjustment
Use for fine tuning
Stage adjustment knobs
Move stage left to right
or front to back
Base
1 2 3 4 5 6 7 8 9 10
Light source

PTS: 1