Clinical Laboratory Technology

Exam Information

Exam number
705

Items
48

Points
55

Prerequisites
Health Science Fundamentals

Recommended course length
One semester

National Career Cluster
Health Science

Performance standards
Pending

Certificate available
Yes

Description

The Clinical Laboratory Assistant industry certification exam assesses the preparation of individuals to work as members of clinical laboratory teams. Learners demonstrate their understanding of how to perform responsibilities such as reagent preparation, registering patient samples, processing specimen samples for analysis, distributing specimens to technical areas, maintaining laboratory equipment and instrumentation, ensuring quality control, and providing customer support for service inquiries.

Exam Blueprint

Standard	Percentage of exam
1. Asepsis	27%
2. Medical mathematics	10%
3. Medical terminology	15%
4. Specimen preparation & processing	23%
5. Laboratory operations	25%

Standard 1

Examine basic concepts of asepsis.

Objective 1 Describe the infection control cycle.

1. Review the five types of organisms.
    a. Bacteria (strep, staph and e-coli, etc.)
    b. Virus (HCV, HBV, HIV, etc.)
    c. Parasites (trich, malaria, giardia, etc.)
    d. Fungi (candida, yeast, mold, etc.)
2. Identify the chain of infection (pathogen, reservoir, portal of exit, mode of transmission, portal of entry).
3. Breaking chain of infection (handwashing, PPE, vaccines, nutrition, diet, hygiene, coughing etiquette, covering wounds, disinfection of surfaces).

Objective 2 Demonstrate disease prevention principles.

1. Describe the three levels of infection control.
    a. Sanitation
    b. Disinfection
    c. Sterilization
2. Demonstrate Common Standard Precautions.
    a. Hand washing/hand sanitizing
    b. Proper removal of gloves (fold and tuck method)
    c. Personal Equipment (PPE) – (Donning and removal of lab coat, gloves goggles/face shields)

Objective 3 Apply personal safety procedures based on OSHA and CDC regulations.

1. List blood-borne pathogens (HBV, HCV, HIV).
2. Identify types of potential infectious body fluids for blood-borne pathogens.
3. Describe types of biohazard waste (gloves, glasses slides, gauze, needles, etc.).
4. Describe proper disposal of biohazard waste material (sharps containers, biohazardous waste bags).
5. Identify the use of laboratory safety devices (safety shower, eye wash, fire extinguishers, fire blanket, spill kits).
6. Identify hazards communication.
    a. GHS pictograms – (acute toxicity, flame, health hazard, irritant, skull and cross bones)
    b. NFPA diamond – color and categories
    c. SDS – Safety Data Sheets (identify chemical name, hazard identification, first aid measures, accidental release measures, handling and storage)
7. Sequence/steps taken in response to body fluid exposure.
8. Demonstrate the proper completion of incident/injury report.

Standard 2

Medical mathematics.

Objective 1 Demonstrate competency in basic math skills and mathematical conversions as they relate to the clinical laboratory.

1. Metric system (micro, liters, cent, micro)
2. Mathematical Operations (average, ratios, fractions, percentages, addition, subtraction, multiplication, division)
3. Demonstrate the ability analyze diagrams, charts, graphs, ad tables
4. Demonstrate use of and conversion of 24-hour clock/military time

Standard 3

Medical terminology.

Objective 1 Use common roots, prefixes, and suffixes to communicate information.

1. See Appendix A

Objective 2 Interpret medical abbreviations and acronyms for common laboratory testing.

1. See Appendix B

Standard 4

Specimen preparation and processing.

Objective 1 Verification of patient information, test orders and acceptability for testing.

1. Match patient first and last name on tube label to laboratory requisition.
2. Match patient's DOB from the tube label to laboratory requisition.
3. Verification that ICD-10 codes, insurance information and test orders are complete on requisition.
4. Verification of specimen labeling per CLSI standards.
    a. Last and first name
    b. DOB
    c. Date
    d. Time (in military time)
    e. Initials of phlebotomist
    f. Verify the age of specimen is acceptable for testing

Objective 2 Distribution of laboratory specimens to the appropriate laboratory department.

1. CBC tube to hematology

2. PT to coagulation
3. BMP to Chemistry
4. ABO/Rh to Blood Bank
5. Culture to Microbiology
6. UA to urinalysis

Objective 3 Specimen Processing and Aliquoting.

1. Verify that monthly centrifuge maintenance has been performed.
2. Inspect the centrifuge/rotors that centrifuge is operational.
3. Properly loads and balances tubes in the centrifuge rotor.
4. Sets centrifuge for appropriate time and speed.
    a. Removes tubes and aliquots the appropriate specimens.
    b. Properly labels tubes with patient information and plasma/serum indication.

Standard 5

Laboratory operations.

Objective 1 Regulatory Agencies- NYSDOH, OSHA

1. Identify the appropriate agency as it pertains to safety and health-OSHA.
2. Identify the appropriate agency as it applies to licensing and inspections- NYSDOH.

Objective 2 Laboratory equipment and procedures.

1. Correctly read and record daily temperatures in Celsius of incubators, refrigerators, and freezers.
2. Verify the appropriate temperature range.
3. Demonstrate the appropriate corrective action if needed.

Objective 3 Professionalism and Ethics.

1. Patient Confidentiality (HIPAA).
2. Describe proper behavior in a healthcare setting (honesty, empathy, dependable, team player).
3. Describe proper dress of a healthcare worker.
4. Describes ethical scenarios as it relates to the laboratory setting.
5. Demonstrates clear and concise verbal and written communication.
6. Demonstrates ability to independently follow written procedures.

Appendix A – prefixes, suffixes, root words

Prefixes

Anti-	Macro-	Semi-
Dys-	Micro-	Brady-
Hyper	-Mono-	Tachy-
Hypo-	Peri-	Bi-
Inter-	Poly-	Sub-
Intra-	Pre-	

Root Words

Toxic	Neur/o	Cardi/o
Phleb/o	Ven/o	Ren/o
Nephr/o	Hem/o	Thromb/o
Hepta/o	Leuk/o	Eyrth/o
Cyan/o		

Suffixes

-ac,	-al,	-ary,
-eal,	-ic,	-ium,
-ous	-cyte	-ectomy

-gram	-graph	-graphy
-ia-	-itis	-logist
-logy	-lysis	-oma
-osis	-penia	-scope
-tomy		

Appendix B – Laboratory Abbreviations and Acronyms

DOB	CSF	CBC
Dx	Neg	Hcr
FUO	Pos	Hgb
K=	Stat	RBC
Na=	Temp	WBC
HIV	PT (Protime)	HAV
HBV	BMP (Basic Metabolic Panel)	UA
HCV	CMP (Comprehensive Metabolic Panel)	FBS
C&S (Culture & Sensitivity)	CSF	ABO
UTI		