

EXAMINABLE AREAS FOR DIPLOMA MEDICAL LABORATORY SCIENCE

MICROBIOLOGY

(Parasitology, Bacteriology, Mycology, Virology/Serology & Immunology)

1. Collect clinical specimens from patients in the proper ways.
2. Know the guidelines and procedures of handling and documentation of clinical specimens.
3. Apply specimen acceptance/rejection criteria.
3. Familiarize with computerized system of specimens' entry and distribution to respective work benches
4. To categorize specimens according to their turn around time (distinguish between routine and STAT/Urgent tests).
4. Perform urine analysis efficiently as regarding macroscopic, biochemical, and microscopic examinations.
5. Perform stool analysis efficiently considering macroscopic and microscopic examinations.
6. Take appropriate actions when a result has serious clinical implications.
7. Ensure adequate records to be kept.
8. Perform staining techniques and quality control (QC) of stains.
9. Utilize aseptic techniques and safe handling of infectious material.
10. Prepare and do QC of culture media and preservation of stock strains used in performance testing.
11. Inoculate broth and agar culture media and plating out techniques.
12. Read and interpret cultures.
13. Use biochemical phenotypic techniques to identify bacteria isolates.
14. Perform antimicrobial susceptibility testing and QC of procedure and discs.
15. Efficient use and care of lab equipment (daily, weekly and monthly maintenance) used in the microbiology laboratory.
16. Perform immunological techniques and QC of antigen and antibody reagents.
17. Recognize appropriate specimen type, quantity and quality for the diagnosis of clinically significant parasites (eg. Malaria, Babesia, Filaria, Scabies, etc)

HAEMATOLOGY & TRANSFUSION SCIENCE (BLOOD BANK LABORATORY)

1. Acquire practical skills of proper phlebotomy techniques during the internship period: (a) To disinfect the blood collection site with appropriate disinfectant. (b) To know how to apply a tourniquet and for desirable time. (c) To detect the preferred venous access sites. (d) To insert the needle properly for blood withdrawal. (e) To take care of the patient to avoid complications during and after blood collection process.
2. Perform routine hematological tests (i.e., FBC, WBC count, WBC differentials, ESR, Reticulocyte count, etc).
3. Prepare and stain blood films with routine and special stains.
4. Perform or observe special techniques (e.g., Hb electrophoresis, HPLC, Blood film (Thick and Thin) for detection of malaria parasites, sickle cell screening, etc.)
5. Screen test for G6PD deficiency.
6. Utilize tests to screen for bleeding disorders: coagulation profile, clotting profile.
7. Ensure test results are correctly and adequately recorded and well kept.
8. Blood autoanalyzer calibration, Quality control of reagents, trouble-shooting.
9. Perform Blood grouping (ABO, Rh) and compatibility tests.

CLINICAL CHEMISTRY (CHEMICAL PATHOLOGY)

1. Demonstrate knowledge on specimen collection, reception (based on acceptance & rejection criteria), transport, sample preparations and proper storage for possible re-testing at a later date.
2. Perform different clinical chemistry laboratory tests under supervision.
3. Practice calibration procedures and quality control for various biochemical tests
4. Operate of the instrument according to the standard operational manual
5. Understand instrument breakdown/trouble-shooting and corrective maintenance.
6. Implement laboratory quality management.
7. Perform other duties as may be assigned or required.
8. Documentation of test results

HISTOPATHOLOGY

1. Recognize appropriateness of specimen type, size, and quality.
2. Apply specimens' acceptance/rejection criteria: Review specimen type, size and appropriateness of the preservative and container for histopathology.
3. Preserve and handle specimens for the requested tests
4. Exhibit knowledge of different stains and staining protocols including immuno-histo/cyto-chemical staining
5. Processing of body fluids by centrifugation
6. Papanicolaou staining of cytology specimen
7. Romanowsky staining of cytologic specimen
8. Destaining and restaining of papnicoulau stained smears
9. Preparation of fixatives
10. Tissue processing
11. Embedding of tissue in paraffin wax
12. Double embedding (agar/paraffin wax)
13. Haematoloxylin and eosin staining
14. Periodic acid Schiff's stain
15. Diastase periodic acid Schiff's stain
16. Alcain blue-pas stain
17. Perl's Prussian blue stain