

Levels of Knowledge required for minimal passage of external registry						
Use this as a study guide since all of this material may not be covered in class room exercises/lectures or reading.						
	1 Specimen Collection	Physiological Theory	Principles of Methods	Clinical Correlation	Problem Resolution	Approved
	handling/storage/Prep					
Fluid Analysis						
Chemical Exam Urine						
Physical Exam Urine						
Microscopic Exam Urine						
Reducing substances						
SSA						
Porphyrins						
Urine Pregnancy						
Fat Stain						
Body Fluid Count						
Body Fluid Diff						
Body Fluid Chemistry						
Semen Analysis						
Fecal Occult Blood						
Fecal Fat						

Blood Bank Components						
	Donor Criteria/coll/stor	Preparation/testing	Clinical Indication	Adverse reactions	Expiration/Inspection	
Leukopoor Platelets						
Random Donor Platelets						
Single Donor Platelets						
Packed Red Blood Cells						
Leukopoor Red Blood CIs						
Washed Red Cells						
Frozen Thawed Red Cells						
Irrad Red Cells						
Whole Blood						
FFP						
CryoAHF						
Cryo Fibrinogen						
Granulocyte Concentrate						
Facot VIII Concentrate						
Factor IX Concentrate						
Blood Substitutes						
Immune Globulin						
Normal Serum Albumin						
Plasma Protein Fraction						
Synth Volume Expanders						
Rho Gam						
Directed Donation						
Autologous Donation						

Blood Band Tests and Systems					
	Collect/Label/Storage	Immun/genetic theory	Princip methods /	Disease/Clinical	Complex Problem
			Recogn common	Correlations	Resolution
			Problems		
DAT					
Indirect Antiglobulin Test					
ABO Blood Typing					
Rh Blood Grouping					
Other Blood Grouping					
Lewis					
MNSs					
P					
li					
Kell					
Duffy					
Kidd					
Lutheran					
High Titer/Low Avidity					
Bg Antibodies					
Antibody ID					
Antibody Removal Adsorp					
DTT 2-Mercaptoethanol					
Prewarm Technique					
Cold Workup IgAHG					
Enzyme Treatment					
PEG					
ZZAP					
Neutralization					
Antibody titer					
Major Crossmatch					
Minor Crossmatch					
Elutions					
Antibody Screen					
HLA Testing					
Paaternity Testing					
Organ Transplant Testing					
Crossmatch by Computer					
Gel Technique					

Instruments	Essential Components	Princ of Operation	Preventive Maint	Recog. Unexpect	Resolves Complex	
				Takes Correct	Problems	
				Action/refers		
Automated Typing Equip						
Cell Washers						
Apheresis						
Blood Recovery Sys						
Gel Typing						
Manual Techniques						
Hematology/Hemostasis Procedures and Tests						
	Spec collection/handling	Physiological Theory	Princip of Methods	Clinical correlations	Resolves Complex	
	storage and prep				Problems	
Automated Cell Counting						
RBC Morph/incl/indices						
RBC Count						
WBC morph with diff						
WBC artefacts and incl						
Platelet Count						
Platelet morph/artefacts						
Reticulocyte Count						
Bone Marrow evaluation						
B-12/Folate						
Spun Crit						
Hemoglobin						
Carboxyhemoglobin						
plasma hemoglobin						
Dithionite						
Kleihauer Betke						
Hgb Electro						
Sed Rate						
PAS						
Myeloperoxidase						
Sudan Black						
Chloroacetate Esterase						
Non-spec esterase						
TRAP						
Tdt						
Prussian Blu						

LAP						
Cluster Design						
Osmotic fragility						
PK Test						
G6PD Test						
Sugar Water Test						
Hams Test						
ACT						
PTT						
PTT						
Thrombin						
Fibrinogen						
Protein C						
Leiden V						
Lupus Anticoag						
Protein S						
Platelet Neutralization						
Factor Assays						
FDP						
D-Dimer						
Plasminogen						
Bleeding Time						
Clot Retraction						
0						
Instruments/methods						
	Essential Components	Princ of Operation	Prev Maintenance	Recognizes Prob	solves complex	
				corrective aqction/ refer	problems	
Automated stainers						
Micro centrifuge						
Automated Counters						
Flow Cytometer						
Platelet Aggregometer						
Manual Clot Detection						
Mechanical Clot detection						
Optical clot detection						
Cyocentrifuge						

Microbiology Bacteria and Other Organisms					
	Staining Characteristics	Spec/Media/incubation	Colonial Morph	Disease or Pathology	Antibiotic patterns
			Biochem and serol reactions		
Staph aureus					
epi					
coag neg staphs					
Strep viridans					
Bhemolytic streps					
pneumoniae					
Enterococcus					
other group D streps					
Listeria					
Erysipelothrix					
Corynebact diphtheriae					
other corynebacteria					
Bacillus anthracis					
Other bacillus					
Lactobacillus					
E. coli					
OH 157 and other EHEC					
Kleb-Entrobacter-Serratia					
Prot-Provid-Morganella					
Citrobacter					
Other Enterobacteriaceae					
Pleisiomonas					
Aeromonas					
Campylobacter					
Vibrios					
Salmonella					
shigella					
Yersinia					
Pseudomonas					
Stenotrophomonism					
Burkholderia					
Acinetobacter					
Orther nofermentors					
Pastuerella					
Francisella					
Other unusuals					
Bordetella pertussis					

Other bordetella						
Neisseria gonorrhoea						
Neisseria meningitidis						
Moraxella Branhamella cat						
Hemophilus influ						
Other hemophili						
Garnerella						
Legionella						
Actinomyces						
Bacteroides fragilis						
Bacteroides (Prevotella)						
Bifidobacterium						
Clostridium perfringens						
Clostridium difficile						
Clostridium tetani						
Clostridium botulinum						
Eubacterium						
Fusobacterium						
Peptostreptococcus						
Propionibacterium						
Veilonella						
Nocardia						
Streptomyces						
Mycobacterium tuberculo						
M. gordonae						
M. avium						
M. avium intracellulare						
M. kansasii						
M. scrofulaceium						
M. fortuitum						
M. marinum						
M. leprae						
Chlamydia trachoms						
Mycoplasmas						
Borrelia						
Treponema						
Parasites and Fungi not on this list yet						
Dimorphic fungi						
Rhizopus						
Mucor						

Penicillium						
Aspergillus						
Candida						
Cryptococcus						
Malezzia						
Microsporum						
Trichophyton						
Epidermophyton						
Microbiology -Procedures-Tests-Cultures						
	Specimen coll/handling	Princip of Methods	ID potential Paths	Correl with patient	Resolves problems	
Kirby Bauer						
MIC						
MBC						
Schlichter Test						
Bacterial Antigen						
Blood						
GC						
Gram stain						
Throat						
Urine						
Sputum						
Wound/Abcess						
Body Fluid						
Anaerobic						
Acid Fast						
Blood Culture for AFB						
Fungal Blood Culture						
Fungus Culture						
Slide Culture						
Tease Mount						
Cellphane Tape Prep						
Yeast fermentations						
Yeast assimilations						
Calcofluor white						
Gommorri Methionine						
Shell vial						
RSV antigen						
Chlamydia culture						
Chlamydia DFA						

EIA						
Fecal Leukocytes						
PCR						
Genetic Probes						
Beta lactamase						
Commercial strips						
TSI/LIA Urea						
Trichrome						
Other stains						
Formalin Ethyl Acetate						
Zinc sulfate						
giemsa						
Diff Quick						

Immunology					
	Spec-collect/handling	Immun/Physiological	Princ of Method	Clinical correlation	Complex problem
		Theory			Solving
VDRL					
RPR					
FTA					
TPI					
Mono					
Heterophil					
ASO					
Antihyaluronidase					
Anti-DNAase					
ANA					
ENA					
Autoagglutinins					
Thyroid Antibodies					
Leukoagglutinins					
Smooth Muscle ab					
Mitochondrial Ab					
Parietal cell antibodies					
DNA ploidy					
Febrile agglutinins					
Immunoglobulins					
Ceruloplasm					
Cryoglobulin					
Mycoplasma					
Fungal Antibodies					
Cryptococcus Antibodies					
Complement					
Hepatitis					
Rubella					
Cytomegalovirus					
HIV					
Rubeola					
Varicella					
EBV					
HTLV1					
Mumps					
TORCH					
Cold agglutinins					
CRP					

Lyme						
Rickettsia						
T4/T8						
Latex agglutination						
Hemagglutination						
Immunophenotyping						
Immunodiffusion						
DFA						
IFA						
Comp Fix						
Immunology Equipment						
	Essential Componenets	Principals of Operation	Preventive Maintenanc	Recognizes unexp	Complex problem	
				results correct or	Solving	
				refer		
Fluorometer						
Chemiluminometer						
Photometer						
Nephelometer						
EIA						
FPIA						
IRMA						
RIA						
Gamma Counter						
Flow Cytometer						
Western Blot						

Chemistry Procedures					
	Spec coll/handling/prep	Biochemical/Physiologic	Principles of Methods	Clinical Correlation	Complex problem
		Theory			Solving
Glucose					
Fructosamine					
Glycated albumin					
insulin					
C-peptide					
Cholesterol					
HDL					
LDL					
Triglycerides					
Lipoproteins					
apolipoproteins					
phosphatidyl glycerol					
LS ratio					
Hgb electrophoresis					
myoglobin					
methemalbumin					
prealbumin					
transferrin					
total protein					
myelin basic protein					
cryoglobulins					
haptoglobin					
phenylalanine					
amino acids					
urine albumin					
oligoclonal bands					
amylase					
lipase					
acid phosphatase					
AST					
CK					
LDL					
ALP					
GGT					
CK isos					
LD isos					
cholinesterase					

bilirubin						
urobilinogen						
ammonia						
hemosiderin						
ionized calcium						
calcium						
phosphorus						
magnesium						
iron TIBC						
BUN						
Creatinine						
uric acid						
osmolality						
blood gases						
electrolytes						
estradiol						
estriol						
LH						
FSH						
17 ketosteroids						
aldosterone						
free T-4						
Total T-4						
T-3 uptake						
TSH total T-3						
TBG						
HCG						
cortisol						
5-HIAA						
VMA						
serotonin						
catecholamines						
metanephrine						
progesterone						
therapeutic drug monitoring						
troponin						
heavy metals						
drugs of abuse						
cyclosporine						
acetomenophen						
salicylates						

ethanol						
AFP						
lactic acid						
pyruvates						
Tumor markers						
protein electrophoresis						

Chemistry Instrumentation						
	Essential Components	Principles of Operation	Preventive Maintena	Recognize unexpect	Complex problem	
				results/corrective	Solving	
				action-refer		
Spectrophotometer						
ion selective electrodes						
oximeter						
fluorometer						
atomic adsorption						
nephelometer						
coulometer						
potentiometer						
osmometer						
mass spect						
discrete analyzer						
random access analyzer						
scintillation counter						
gamma counter						
protein electrophoresis						
immunoelectrophoresis						
immunofixation						
isoelectric focusing						
fluorescence polarization						
thin layer chromatography						
gas liquid chromatog						
ion exchange chromatog						
hplc						
enzyme immunoassay						