1.Double embedding: Infiltrated with CELLOIDIN then embedded with PARAFFIN.
2. Flotation waterbath: 45 to 50 C
3. To remove formalin pigments: Picric acid
4. To remove mercurial deposits: Iodine
5. Explosive when dry: Picric acid
6. Function of alum in hematoxylin: Mordant
7. Primary importance of Frozen Sections: RAPID DIAGNOSIS
8. Enzyme histochemistry: Frozen section
9. Second best choice for routine cytologic examination after Papanicolau: Phase contrast microscopy
10. NOT SUITABLE for kidney structures: Bouin's
11. Cell death due to ischemia (loss of blood supply) is known as infarction, and is manifested by caharacteristic histologic appearance: COAGULATION NECROSIS
12. Pseudomembranous colitis and diarrhea: Clostridium difficile
13. Corynebacterium amycolatum: Most frequently recovered Corynebacterium species from human clinical material. It is part of the normal skin microbiota.
14. Primary fungal pathogen in HIV patients: Candida albicans.
15. Doublewalled, wrinkled cyst form: Acanthamoeba castellanii
16. Intracellular form of blood and tissue flagellates: leishmanial form
17. Normal stool pH: pH 7 to 8
18. Stool pH associated with CHO disorders: pH 5.5 or less
19. Microhematocrit: 10,000 g for 5 minutes
20. Standing plasma test: creamy layer (chylomicrons); turbid (VLDL)

21. Microanatomical fixatives should never contain osmic acid/osmium tetroxide because it inhibits hematoxylin.
22. Nuclear fixatives should contain glacial acetic acid due to its affinity for nuclear chromatin.
23. Cytoplasmic fixatives (Flemming's without HAc, Regaud's, Orth's, Helly's and formalin with post-chroming). They should never contain Glacial Acetic Acid because it destroys the mitochondria and Golgi bodies.
24. Manual paraffin wax infiltration and embedding: At least four (4) changes of wax are required at 15 minutes interval to ensure complete removal of the clearing agent from tissue. The specimen is then immersed in another fresh solution of melted paraffin for approximately 3 hours to ensure complete embedding or casting of tissue.
25. Cambridge/Rocking microtome: invented by Paldwell Treffall.
26. Bond between Best carmine and glycogen: Coulombic attraction/electrostatic bonds, hydrogen bonds
27. Routine H and E: Regressive staining, it involves a differentiation step
28. Stains for the glomerular basement membrane: PAS, Azocarmine stain
29. Postmortem clotting: immediately after death, rubbery consistency
30. Antemortem thrombi: friable, characterized by fibrin precipitation
31. Leadership: DIRECTING
32. COMPONENTS OF FIBRIN GLUE: cryoprecipitate (fibrinogen) and topical thrombin
33. Donor deferral, measles (rubeola) vaccination: 2 weeks
34. Donor deferral, German measles (Rubella) vaccination: 4 weeks
35. When stained with Sternheimer-Malbin stain, GLITTER CELLS stain LIGHT BLUE as opposed to the VIOLET COLOR usually seen with NEUTROPHILS.
35. After episodes of hemoglobinuria, yellow-brown granules may be seen in renal tubular epithelial cells and casts or free-floating in the urine sediment. To confirm that these granules are hemosiderin, the Prussian blue stain for iron is used and stains the hemosiderin granules a blue color. (RTE cells with HEMOSIDERIN).
36. Second most prevalent protein in CSF: Prealbumin (transthyretin)
37. MECONIUM, which is usually defined as a newborn’s first bowel movement, is formed in the intestine from fetal intestinal secretions and swallowed amniotic fluid. It is a dark green, mucus-like material. It may be present in the amniotic fluid as a result of fetal distress.
38. Blood should NEVER be drawn from a vein in an arm with a cannula (temporary dialysis access

device) or fistula (a permanent surgical fusion of a vein and an artery).
39. Adverse reaction of Aminoglycosides: Nephrotoxicity and ototoxicity
40. TETANY: neuromotor irritability accompanied by muscular twitching and eventual convulsions; generally due to low calcium levels (hypocalcemia)

41. Reagent for the APT test: 1% NaOH
42. APT test: fetal blood, pink solution
43. APT test: maternal blood, yellow-brown supernatant
44. Florence test: test for choline
Iodine, KI/ dark brown rhombic crystals
45. Barbiero's test: test for spermine
Picric acid, TCA/ yellow leafshaped crystals, needles
46. Blondheim's test: test to differentiate hemoglobin from myoglobin, ammonium sulfate will precipitate hemoglobin
47. Nanometer is also millimicron
48. Embedding medium for EM is Plastic
49. Best vital stain is neutral red
50. Vital stain for mitochondria is Janus Green
51. Ferning: Early pregnancy
52. Pap's consists of 3 stains: Harris hematoxylin, OG 6 and EA
53. Total renal BLOOD flow is 1200 mL/min
54. Total renal PLASMA flow is 600 to 700 mL/min
55. Most potent estrogen is Estradiol
56. Most important androgen in terms of potency and amount secreted is testosterone (Marshall)
57. Conn syndrome: primary aldosteronism
58. Hirsutism: male-pattern hair growth in women; most common cause is PCOS (polycystic ovary syndrome, Marshall)
59. Primary male hypogonadism
Decreased testosterone
Increased LH and FSH
60. Secondary male hypogonadism
Decreased testosterone
Decreased LH and FSH

61. BASAL STATE: early morning before the patient has eaten or become physically active. This is a good time to draw blood specimens because the body is at rest and food has not been ingested during the night.
62. ACID: substance than can yield a hydrogen ion or hydronium ion when dissolved in water
63. BASE: substance than can yield hydroxyl ions (OH-)
64. COLLIGATIVE PROPERTIES: properties of osmotic pressure, freezing point, boiling point and vapor pressure
65. t-test: compare accuracy, mean (TAM)
66. f-test: compare precision, SD (SPF)
67. Random error: 1:2SD, 1:3SD, R:4S (ODD NUMBERS)
68. Systematic error: 2:2SD, 4:1SD, 10:x (EVEN NUMBERS)
69. ZERO-ORDER KINETICS: reaction rate is dependent on enzyme concentration only
70. FIRST-ORDER KINETICS: reaction rate is directly proportional to substrate concentration
71. Arteriosclerosis: thickening or hardening of the walls of arteries
72. Atherosclerosis: accumulation of lipid in the veins and arteries
73. Azotemia: elevated urea in blood
74. Addison’s disease: deficiency of adrenocortical hormones
75. Conn’s syndrome: aldosterone-secreting adrenal adenoma
76. Cushing’s syndrome: excessive production of glucocorticoids (cortisol) by adrenal cortex
77. Phaeochromocytoma: tumors of the adrenal medulla or symphatetic ganglia that produce and release large quantities of catecholamines

78. Amenorrhea: cessation of menstruation
79. Cirrhosis: Greek work YELLOW; irreversible scarring process by which normal liver architecture is transformed into abnormal nodular architecture
80. Gilbert's syndrome: hereditary disorder in which there is DECREASED BILIRUBIN TRANSPORT into the hepatocytes.
81. Crigler-Najjar syndrome: hereditary DEFICIENCY of the UDPG-TRANSFERASE ENZYME
82. Dubin-Johnson syndrome is associated with increased plasma conjugated bilirubin, inborn error of metabolism
83. Rotor syndrome, possibly of viral origin, where there is also a block in the excretion of conjugated bilirubin but without liver pigmentation
84. Wilson's disease is a defect of copper transport from the liver resulting in overload of copper in liver and brain
85. Menkes disease is an X-linked recessive disorder in which defective transport of copper from mucosal cells results in copper deficiency.
86. Hashimoto's thyroiditis: chronic autoimmune thyroiditis; it is the most common cause of primary hypothyroidism
87. Graves' disease: diffuse toxic goiter
88. Kwashiorkor: acute protein calories malnutrition
89. Marasmus: caused by caloric insufficiency without protein insufficiency so that the serum albumin level remains normal; there is considerable loss of body weight
90. Leydig cells: cells of the testicles that produce testosterone

91. CD34: cell membrane marker of stem cells
92. GRANULAR, DIRTY, BROWN CASTS representing hemoglobin degradation products such as methemoglobin: ACUTE TUBULAR NECROSIS
93. ADSORPTION: Providing an antibody with its corresponding antigen under optimal conditions so that the antibody will attach to the antigen, thereby removing the antibody from the serum
94. ELUTION: process whereby cells that are coated with antibody are treated in such a manner as to disrupt the bonds between the antigen and antibody
95. ALKALINE PHOSPHATASE (ALP): red blood cell enzyme used as an identification marker in paternity testing and criminal investigation (Harmening)
96. AMORPH: gene that does not appear to produce a detectable antigen; a silent gene
97. ANASTOMOSIS: connection between two blood vessels, either direct or through connecting channels
98. ANTI-A1 LECTIN: DOLICHOS BIFLORUS
99. ANTI-B LECTIN: BANDEIRAEA SIMPLICIFOLIA
100. ANTI-H LECTIN: ULEX EUROPAEUS
101. ANTI-M LECTIN: IBERIS AMARA
102. ANTI-N LECTIN: VICIA GRAMINEA
103. DOSAGE: phenomenon whereby an antibody reacts more strongly with a red blood cell carrying a double dose (homozygous inheritance of the appropriate gene) than with a red blood cell carrying a single dose (heterozygous inheritance) of an antigen
104. EPITOPE: portion of the antigen molecule that is directly involved in the interaction with the antibody; the ANTIGENIC DETERMINANT
105. PRIVATE ANTIGEN: antigenic characteristic of the red blood cell membrane that is unique to an individual or a related family of individuals and therefore is not commonly found on all cells (usually less than 1% of the population)
106. PUBLIC ANTIGEN: antigen characteristic of the red blood cell membrane found commonly among individuals, usually more than 98% of the population
107. Apoptosis: programmed cell death
108. Ecchymosis: small hemorrhagic spot, LARGER THAN PETECHIA, in the skin or mucous membrane, forming a rounded or irregular blue or purplish patch; also known as bruise
109. Koilonychia: fingernails are thin, flattened and concave; associated with iron deficiency anemia
110. Leptocyte: thin, flat red cell with hemoglobin at periphery and increased central pallor; hypochromic cell

111. Reed-Sternberg cell: presence is definitive histologic diagnosis of HODGKIN'S DISEASE
112. Alder-Reilly anomaly: leukocytes of the myelocytic series, and sometimes all leukocytes contain coarse azurophilic mucopolysccharide granules
113. Auer rod: needle-shaped or round inclusion in the cytoplasm of myeloblasts and promyelocytes; composed of condensed primary granules
114. Chediak-Higashi anomaly: congenital, autosomal recessive disorder, characterized by partial albinism, photophobia and the presence of abnormally large blue granules in leukocytes
115. May-Hegglin anomaly: autosomal dominant inherited blood cell disorder characterized by thrombocytopenia and granules containing cytoplasmic inclusions similar to Dohle bodies
116. Sezary syndrome: cutaneous T CELL LYMPHOMA characterized by exfoliative erythroderma, peripheral lymphadenopathy and Sezary cells present in the skin, lymph nodes and peripheral blood
117. Gaucher's disease: rare disorder of fat metabolism caused by deficiency of glucocerebrosidase
118. Bernard-Soulier syndrome: mutations to platelet GP IB or GP IX, defect of platelet adhesion
119. Glanzmann's thrombasthenia: mutations to platelet GP IIb or IIIa; defect of fibrinogen-dependent platelet aggregation
120. Lactoferrin: protein produced by the neutrophis and stored in the secondary granules that is able bind iron

121. GLASS PIPET: basic pipet
122. CAPILLARY BLOOD SAMPLES for glucose testing and for other assays are used frequently in many health care facilities for bedside testing, or point-of-care testing (POCT)
123. ANTIDIURETIC HORMONE: hormone produced by the hypothalamus to regulate water reabsorption in the COLLECTING DUCT
124. RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM: regulates flow of blood to and within the kidneys by responding to changes in blood pressure and plasma sodium content
125. MELENA: BLACK, TARRY STOOL associated with gastrointestinal hemorrhage
126. BULKY/FROTHY STOOL: pancreatic disorder, bile-duct obstruction
127. RIBBON-LIKE STOOL: intestinal constriction
128. BLACK STOOL: upper GI bleeding, iron therapy, charcoal, BISMUTH (antacids)
129. AZOOSPERMIA: absence of sperm in a semen sample
130. OLIGOSPERMIA: low sperm count
131. SPERMATIDS: immature spermatozoa
132. SERTOLI CELLS: Part of the germinal epithelium of the seminiferous tubules, give rise to spermatozoa
133. LEYDIG CELLS: cells of the testicles that produce testosterone
134. ACROSOMAL CAP: tip of a spermatozoa head, which contains enzymes for entry into an ovum
135. PROTEIN ERROR OF INDICATORS: color-change phenomenon occurring because PROTEINS ACT AS HYDROGEN ION ACCEPTORS AT A CONSTANT PH
136. SHIFT: abrupt change in the mean of a series of results
137. TREND: gradual change in one direction of the mean of a control substance
138. CHAIN OF CUSTODY: step-by-step documentation of the handling and testing of legal specimens
139. CHAIN OF INFECTION: continuous link in the transmission of harmful microorganisms between a source and a susceptible host
140. TOTAL QUALITY MANAGEMENT (TQM): institutional policy to provide customer satisfaction
141. CONTINUOUS QUALITY IMPROVEMENT (CQI): institutional program that focuses on customer satisfaction and expectations
142. FORWARD angle light scatter: light scattered at an angle of less than 90 degrees, which indicates the SIZE OF A CELL
143. SIDE ANGLE, right angle light scatter: light scattered at 90 degrees in a flow cytometer that indicates the GRANULARITY OF A CELL

144. RADIOIMMUNOSORBENT TEST (RIST): measures TOTAL IgE
145. RADIOALLERGOSORBENT TEST (RAST): measures ANTIGEN-SPECIFIC IgE
146. RUBELLA: RNA viral cause of German or 3-day measles
147. RUBEOLA: single-stranded RNA virus that cause measles
148. DIAPEDESIS: amoeboid movement of cells such as monocytes and polymorphonuclear neutrophils to a site of inflammation in phagocytosis
149. DiGeorge anomaly: congenital defect of the third and fourth pharyngeal pouches that affects thymic development, leading to a T-cell deficiency. Patients are subject to recurring viral and fungal infections
150. Franklin's disease: dysproteinemia synonymous with gamma heavy-chain disease. This abnormality is characterized by the presence of monoclonal protein composed of the heavy-chain portion of the immunoglobulin molecule.
151. Kahler's disease An alternate term for multiple myeloma.
152. CARRIER: molecule that when coupled to a hapten, makes the hapten capable of stimulating an immune response
153. HAPTEN: simple chemical group that can bind to antibody once it is formed but that CANNOT stimulate antibody formation unless tied to a larger carrier molecule
154. EPITOPE: single antigenic determinant. It is functionally the portion of an antigen that combines with an antibody paratope
155. PARATOPE: part of the antibody molecule that makes contact with the antigenic determinant
156. SENSITIVITY: frequency of positive results obtained in testing a population of individuals who are positive for antibody
157. SPECIFICITY: proportion of negative test results obtained in the population of individuals who actually lack the antibody in question
158. ONCOFETAL ANTIGENS: antigens that are expressed in the developing fetus and in rapidly dividing tissue, such as that associated with tumors, but that are absent in normal adult tissue
159. CARCINOMA: malignant tumor of EPITHELIAL TISSUE origin
160. SARCOMA: malignant tumor of CONNECTIVE TISSUE origin161. DOH SECRETARY: DR. PAULYN JEAN B. ROSELL-UBIAL
162. DRIVING FORCE of the bicarbonate buffer system is CARBON DIOXIDE.
163. TURNAROUND TIME (TAT): time from ordering a test through analysis in the laboratory to the charting of the report.
164. Hazardous chemicals should be labeled with a description of their particular hazard, such as POISONOUS, CORROSIVE OR CARCINOGENIC.
165. Information contained in the Material Safety Data Sheets (MSDS) includes the following: physical and chemical characteristics, fire and explosion potential, reactivity potential, health hazards and methods for safe handling.
166. Urinometer is placed with a SPINNING MOTION. The scale reading is then taken at the BOTTOM OF THE URINE MENISCUS.
167. Studies have shown that although everyone who eats ASPARAGUS produces a urine odor, ONLY certain genetically predisposed people can smell the odor.
168. CABBAGE urine odor: METHIONINE MALABSORPTION.
169. The heme portion of MYOGLOBIN IS TOXIC TO RENAL TUBULES and high concentrations can cause acute renal failure.
170. CASTS have tendency to locate NEAR THE EDGES OF THE COVERSLIP.
171. ETHYLENE GLYCOL (anti-freeze) poisoning: MONOHYDRATE CAOX
172. TRIPLE PHOSPHATE: coffin-lid or FEATHERY APPEARANCE (as they disintegrate)
173. MAKLER COUNTING CHAMBER provides a method for counting UNDILUTED seminal fluid. Sperms are immobilized by heating part of the specimen prior to charging the chamber.

174. COMPUTER-ASSISTED SEMEN ANALYSIS (CASA) provides OBJECTIVE determination of both SPERM VELOCITY and TRAJECTORY (DIRECTION OF MOTION).
175. A maximum of 30 mL AMNIOTIC FLUID is collected in sterile syringes. The first 2 to 3 mL collected can be contaminated by maternal blood, tissue fluid and cells and are discarded.
176. OSMOTIC DIARRHEA: increased RETENTION of water and solutes in the large intestine associated with MALABSORPTION AND MALDIGESTION.
177. SECRETORY DIARRHEA: increased SECRETION of water and electrolytes into the large intestine caused by BACTERIAL ENTEROTOXINS.
178. Plasmapheresis donor, total protein at least 6 g/dL.
179. Packed red blood cells LEAK POTASSIUM into the plasma or additive solution of the blood component during storage. Rapid infusion of a large volume of packed red blood cells may put patient populations such as neonates and patients with cardiac, hepatic, or renal dysfunction at risk of developing hyperkalemia. The transient hyperkalemia related to massive transfusion appear to be related to the patient's acid base balance, ionized calcium levels, and rate of infusion of the packed red blood cells.
180. Significant Antibody titer in HDN:
HARMENING
4th edition: significant is 32
5th edition: significant is 16 to 32
6th edition: critical titer is 16181. BENCHMARKING: individual facility COMPARE ITS RESULTS WITH THOSE OF ITS PEERS
182. MEAN: average value
183. MODE: most frequently occurring value
184. MEDIAN: middle value within range
185. CONSTANT systematic error - y-intercept
186. PROPORTIONAL systematic error - SLOPE
187. Fungi (dermatophyte) produces macroconidia that are large, multicellular, and club-shaped with smooth walls: EPIDERMOPHYTON FLOCCOSUM
188. In pancreatic adenocarcinoma, 96% of tumors with CA 19-9 levels >1,000 U/mL are considered UNRESECTABLE (cannot be removed completely through surgery).
189. Reporting Mixed Lymphocyte Reaction: either Stimulation Index (SI) or percent relative response (%RR)
190. ASCHOFF BODIES are nodules found in the hearts of individuals with RHEUMATIC FEVER.
191. MERCURY: must NOT GO through drain disposal
192. FORMALDEHYDE WASTES: can be recycled by distillation or by drain disposal, can be detoxified by commercial product, or can be disposed of by licensed waste hauler.
193. BARR (sex chromatin) BODY or DRUMSTICK: represent the second X chromosome in females and may be seen in 2 to 3% of neutrophils in FEMALES. The number of Barr bodies in a cell is one less than the number of X chromosomes present in a cell.
194. DOHLE BODIES: rough endoplasmic reticulum containing RNA and may represent localized failure of the cytoplasm to mature. They are found in infections, poisoning, burns and following chemotherapy.
195. CHEDIAK-HIGASHI: granulocytes usually contain several very large, reddish-purple or greenish-gray staining granules in the cytoplasm; in the monocytes and lymphocytes they stain bluish purple and may be present singly, or there may be several in one cell. These granules represent ABNORMAL LYSOSOMES.
196. Sickling of the RBCs is maximal at 37C and decreases as the temperature lowers.
197. Platelets on top of the red cell should not be confused with RBC inclusion body. There is generally a nonstaining halo surrounding the platelet when it is positioned on top of the RBC.

198. ESR: bubbles and fibrin clots, invalid results
199. HYGROMETERS: measure HUMIDITY
200. ALCOHOL FIXATIVE CONCENTRATIONS; 70% to 100% because less concentrated solutions will produce lysis of cells.
201. Ethanol and methanol, including Carnoy's solution are commonly used fixatives for nucleic acids.
202. MICROWAVE: physical agent similar in mechanism to vacuum oven (heat) and agitation to increase movement of molecules and accelerate fixation. It is also used to accelerate staining, decalcification, immunohistochemistry and electron microscopy.
* The processing time depends on the thickness and density of the specimen. Reagents used for microwave processing include ethanol, isopropanol and proprietary mixtures of alcohol, and paraffin. Graded concentration of solutions is not required. Clearing agents are not necessary because the temperature of the final paraffin step facilitates evaporation of the alcohols from the tissue. Xylene and formalin are not used in this process, which eliminates toxic fumes and carcinogens.
* Disadvantages of the system include the fact that the process is labor intensive because the solutions are manually manipulated, temperatures must be maintained between 70 and 85°C, and the size of tissue sample is critical (2 mm). Also the cost of laboratory-grade microwaves may be prohibitive, and proper use of the microwave oven requires careful calibration and monitoring.
203. LAST ALCOHOL BATH FOR DEHYDRATION SHOULD BE PURE ETHANOL. A blue discoloration of COPPER SULFATE crystals will indicate FULL SATURATION WITH WATER. Alcohol is then discarded and changed with fresh solution.
204. Skeletal muscle contains bundles of very long, multinucleated cells with cross-striations. Their contraction is quick, forceful, and usually under voluntary control. STRIATED, VOLUNTARY
205. Cardiac muscle also has cross-striations and is composed of elongated, often branched cells bound to one another at structures called intercalated discs that are unique to cardiac muscle. Contraction is involuntary, vigorous, and rhythmic. STRIATED, INVOLUNTARY
206. Smooth muscle consists of collections of fusiform cells that lack striations and have slow, involuntary contractions. NONSTRIATED, INVOLUNTARY
207. CASEOUS NECROSIS: cell death produced by the Tubercle Bacillus. In gross state, the necrotic tissue has the appearance of soft, friable CHEESE.
208. Three (3) major changes that are observed in the NUCLEUS: PYKNOSIS, KARYORRHEXIS (segmentation and fragmentation) and KARYOLYSIS (dissolution of the nucleus).
209. Four (4) phases or stages of CELL DEGENERATION: CLOUDY SWELLING, FATTY DEGENERATION, CELL DEATH OR NECROSIS and CALCIFICATION.
210. BM aspiration is performed by a physician and may be obtained by:
* Needle biopsy: most frequently performed method
* Surgical biopsy
* Percutaneous (entering through the skin) TREPINE (small object used to remove circular section of tissue) biopsy (core of bone with accompanying marrow is obtained) ISBB
211. Antibody enhanced by ACIDIFYING THE PATIENT SERUM: anti-M
212. Most common cause of transfusion reactions: CLERICAL ERRORS
213. Donor unit SEAL HAS BEEN BROKEN: DISCARD THE UNIT
214. Noticeable clots in RBC unit: DO NOT ISSUE THE UNIT, indication of contamination or bacterial growth
215. FIRST STEP in laboratory investigation of transfusion reaction: CHECK FOR CLERICAL ERRORS
216. SAGM, ADSOL shelf life: 42 days
217. REJUVENATION or red blood cells may be performed up to 3 days after the red cell expire
218. Preparation of leukopoor RBCs: filtering, centrifugation and washing

219. Longest expiration date: FROZEN RBCs
220. Component of choice for vWD: CRYOPRECIPITATE
221. Transfusion of BUFFY COAT IS BEST INDICATED for: NEWBORNS with severe infections
222. Test performed on blood that will be transfused to an acidotic or hypoxic infant: HEMOGLOBIN S
223. CD marker responsible for E-rosette formation between T cells and sheep RBCs: CD2
224. Joining (J) chain: IgM and secretory IgA
225. Ig that helps initiate the classical complement pathway: IgM and IgG
226. Primary immune response: IgM
227. Highest titer in secondary response: IgG
228. Immunoglobulin crosslinks mast cells to release histamine: IgE
229. Substance detected by RPR and VDRL test: REAGIN
230. Test for HIV infection in infants who are born to HIV-positive mothers: PCR
231. Best indicator of early acute HBV infection: HBsAg
232. First antibody detected in serum after infection with HBV: anti-HBc
233. Blood products are tested for which virus before being transfused to newborns: CMV
234. Anti-smooth muscle (ASMA) antibodies: chronic active hepatitis
235. Nuclear matrix protein (NMP-22): urinary bladder cancer

HEMATOLOGY

236. Last stage in the erythrocytic series capable of mitosis: POLYCHROMATOPHILIC NORMOBLAST
237. Last nucleated stage in the erythrocytic series: ORTHOCHROMATOPHILIC NORMOBLAST
238. Appearance of primary/nonspecific granules: PROMYELOCYTE
239. Appearance of secondary/specific granules: MYELOCYTE
240. Last stage in the granulocytic series capable of mitosis: MYELOCYTE
241. Youngest cell in the granulocytic series to NORMALLY appear in peripheral blood: BAND
242. Preferable site for BM aspiration and biopsy in adult: ILIAC CREST
243. Miller disc is an ocular device to facilitate counting of: RETICULOCYTES
244. Organ that removes erythrocyte inclusions without destroying the cell: SPLEEN
245. Megaloblastic anemia: MACROCYTIC, NORMOCHROMIC
246. Anemia in sickle cell disease: NORMOCYTIC, NORMOCHROMIC
247. Iron deficiency anemia, thalassemia: MICROCYTIC, HYPOCHROMIC
248. AUTOSPLENECTOMY occurs in SICKLE CELL ANEMIA
249. PCH: Anti-P, DONATH-LANDSTEINER ANTIBODY
250. Major leukocyte in aplastic anemia: LYMPHOCYTES
251. BITE CELLS in G6PD deficiency
252. Microangiopathic hemolytic anemia: schistocytes and nucleated RBCs
253. ANTIBIOTIC implicated in aplastic anemia: CHLORAMPHENICOL
254. Type of anemia in acute leukemia: NORMOCYTIC, NORMOCHROMIC
255. Hodgkin’s disease: REED-STERNBERG CELLS
256. Myelofibrosis: TEARDROP RBCs
257. DIC is most often associated with M3: acute promyelocytic leukemia
258. Peripheral smear of patient with MULTIPLE MYELOMA: ROULEAUX
259. Franklin’s disease: GAMMA HEAVY CHAIN DISEASE
260. TRAP: Hairy cell leukemia
261. CD 10: Common ALL (CALLA)
262. PT and APTT result in patient with polycythemia: BOTH PROLONGED
263. PRIMARY INHIBITOR OF FIBRINOLYTIC SYSTEM: ALPHA2-ANTIPLASMIN
264. Lupus anticoagulant is directed against: PHOSPHOLIPID
265. ASPIRIN inhibits CYCLOOXYGENASEHISTOPATH

266. Primary importance of FROZEN SECTIONS: RAPID DIAGNOSIS
267. 3Fs: FATS/FORMALIN/FROZEN SECTIONS
268. Carbohydrate fixation: ALCOHOLIC FIXATIVES
269. Protein fixation: NEUTRAL BUFFERED FORMALDEHYDE OR FORMALDEHYDE VAPOR
270. Glycogen fixation: ALCOHOL-BASED such as Rossman's fluid or cold absolute alcohol
271. MERCURIC CHLORIDE: fixative of choice for TISSUE PHOTOGRAPHY
272. Zenker's fluid: LIVER, SPLEEN, CONNECTIVE TISSUE FIBERS and NUCLEI
273. Zenker's-formol (Helly's): PITUITARY GLAND, BM, BLOOD-CONTAINING ORGANS SUCH AS SPLEEN AND LIVER
274. Heidenhain's susa solution: TUMOR BIOPSIES ESPECIALLY SKIN
275. Regaud's (Moller's/Muller's) fluid: CHROMATIN, MITOTIC FIGURES, GOLGI BODIES, RBC and colloid-containing tissues
276. Orth's fluid: study of early degenerative process and tissue necrosis, demonstrates rickettsia and other bacteria
277. LEAD FIXATIVES: ACID MUCOPOLYSACCHARIDES
278. BOUIN'S: fixation of embryos and pituitary biopsies
279. Bouin's is NOT SUITABLE FOR FIXING KIDNEY structures, lipid and mucus
280. Glacial acetic acid solidifies at 17C. SEVENTEEN
281. Carnoy's fluid: CHROMOSOMES, LYMPH GLAND AND URGENT BIOPSIES
282. Newcomer's fluid: fixing of mucopolysaccharides and nuclear proteins
283. NITRIC ACID: most common and fastest decalcifying agent
284. PERENYI'S FLUID: decalcifies and softens tissues at the same time
285. X-ray or radiological method: most ideal, most sensitive method for determining the extent of decalcification
286. Embedding medium for electron microscopy: EPON (PLASTIC MEDIUM)
287. Manual H and E staining: REGRESSIVE STAINING
288. Flotation water bath: 45 to 50C, approximately 6-10C lower than the mp of wax
289. ORCEIN: vegetable dye extracted from LICHENS
290. IODINE: probably the oldest of all stains
291. JANUS GREEN: demonstrating MITOCHONDRIA
292. Stain for the basement membrane: PAS, AZOCARMINE
293. Stain for Helicobacter pylori: TOLUIDINE BLUE, CRESYL VIOLET ACETATE
294. Mountant refractive index should be as close as possible to that of the glass slide which is 1.518
295. POLYCLONAL ANTIBODIES: most frequently used animal is the RABBIT followed by goat, pig, sheep, horse, guinea pig and others
296. MONOCLONAL ANTIBODIES: MICE

CLINICAL MICROSCOPY

297. In renal tubular acidosis, the pH of urine is: CONSISTENTLY ALKALINE
298. Daily loss of protein in urine, normally does not exceed: 150 mg
299. Renal threshold for glucose is: 160 to 180 mg/dL
300. Hemoglobin differentiated from myoglobin: ammonium sulfate (BLONDHEIM'S TEST)
301. Sternheimer-Malbin stain: CRYSTAL VIOLET AND SAFRANIN
302. Pseudocasts: formed by amorphous urates
303. Moderate hematuria and RBC casts: ACUTE GLOMERULOPNEPHRITIS
304. Pyuria with bacterial and WBC casts: PYELONEPHRITIS
305. Crystals appears in urine as long, thin hexagonal plate, and is linked to ingestion of large amounts of benzoic acid: HIPPURIC ACID
306. Oval fat bodies: lipid-containing RTE cells
307. GREATEST PROTEINURIA: NEPHROTIC SYNDROME (Heavy Proteinuria >4 g/day)

308. Whewellite and weddellite kidney stones: CALCIUM OXALATE
309. Struvite: TRIPLE PHOSPHATE/magnesium ammonium phosphate
310. Apatite: CALCIUM PHOSPHATE
311. Limulus lysate test: Gram negative bacterial endotoxin
312. Amoeba in CSF: characteristic pseudopod mobility in WET PREP ON PRE-WARMED SLIDE
313. GOUT: uric acid or monosodium urate
314. PSEUDOGOUT: calcium pyrophosphate
315. BEST TEST for determining the status of the fetoplacental unit: SERUM FREE ESTRIOL
316. SPERM with SMALL OR ABSENT HEADPIECE: acrosomal deficiency
317. Most common cause of male infertility: VARICOCELE
318. Stain of choice for SPERM MORPHOLOGY: Pap's stain
319. Stain to determine SEPRM VIABILITY: EOSIN
320. Serum GASTRIN levels would be greatest in: ZOLLINGER-ELLISON SYNDROMECLINICAL CHEMISTRY
321. Blood should NEVER be drawn from a vein in an arm with a CANNULA (temporary dialysis access device) or FISTULA (a permanent surgical fusion of a vein and an artery).
322. Glassware CLEANING SOLUTION: ACID DICHROMATE
323. HOLLOW CATHODE LAMP is used in AAS
324. Gaussian (normal) distribution: Mean = median = mode
325. Material with physical and chemical properties closely resembling the test specimen and containing preanalyzed concentrations of the substances being measured: CONTROL
326. Material of known composition available in a highly purified form: STANDARD
327. Measuring potassium, antibiotic incorporated into the membrane: VALINOMYCIN
328. Sodium: YELLOW FLAME
Lithium produces a red, sodium a yellow, potassium a violet, rubidium a red, and magnesium a blue color in a flame.
329. Reliable index of intestinal carbohydrate absorption: D-XYLOSE
330. Condensation of glucose with aromatic amine in hot glacial acetic acid solution to produce a green-colored product: O-TOLUIDINE
331. REFERENCE METHOD for glucose: HEXOKINASE
332. Split in the albumin band: BISALBUMINEMIA
333. Compound normally found in urine that may be used to assess the completeness of a 24-hour urine collection: CREATININE
334. Myocardial infarction: CK then AST then LD
335. Specimen of choice for analysis of acid-base disturbances: ARTERIAL BLOOD
336. Anticoagulant of choice for blood gas analysis: HEPARIN
337. Symptom of HYPOCALCEMIA: TETANY
338. Calcium and phosphate metabolism is regulated by the: PARATHYROID
339. In the blood, bicarbonate leaves the RBCs and enters the plasma through an exchange mechanism with: CHLORIDE
340. Major mineralocorticoid: ALDOSTERONE
341. Adrenal medulla secretes this hormone in the greatest quantity: EPINEPHRINE
342. Hollander insulin test is used to confirm: VAGOTOMY
343. Most potent estrogen: ESTRADIOL
344. Assay to monitor the fetoplacental unit: ESTRIOL
345. Hormone associated with galactorrhea, pituitary adenoma, and amenorrhea: PROLACTIN
346. Zollinger-Ellison syndrome is characterized by elevation of: GASTRIN
347. Conn's disease: PRIMARY HYPERALDOSTERONISM caused by adrenal adenoma, carcinoma or hyperplasia

348. Increased 5-HIAA: ARGENTAFFINOMA, carcinoid tumor composed of argentaffin cells. Carcinoid tumors are usually found in the intestine or lung.
349. Thyroid hormones are derived from the amino acid: TYROSINE
350. Pharmacological parameters that determine serum drug concentration: liberation, absorption, distribution, metabolism and excretion (LADME)
351. Route of drug administration associated with 100% bioavailability: INTRAVENOUS
352. TRINDER REACTION: SALICYLATE
353. Acetaminophen (paracetamol) is particularly toxic to the LIVER
354. Increased trough levels of AMINOGLYCOSIDES in the serum are often associated with toxic effects to the KIDNEY
355. Aminoglycoside: NEPHROTOXIC (toxic to KIDNEYS) and OTOTOXIC (EARS)
356. Specimen appropriate for determining exposure to lead: WHOLE BLOOD
357. HEROIN is synthesized from MORPHINE
358. TETRAHYDROCANNABINOL (THC) is the principal active component of MARIJUANA
359. ODOR OF BITTER ALMONDS: CYANIDE POISONING
360. Garlic on breath, metallic taste on mouth. ARSENIC HAS HIGH AFFINITY TO KERATIN. Analysis of urine, hair, and nails, using ion emission spectroscopy, is important for the diagnosis of chronic ARSENIC poisoning (Henry). CM: 4th Edition Strasinger
361. Total renal BLOOD flow: 1,200 mL/min
362. Total renal PLASMA flow: 600 to 700 mL/min
363. Glomerulus serves as nonselective filter of plasma substances with MW of less than 70,000 daltons
364. Serum osmolarity: 275 to 300 mOsm
365. Urine osmolarity range: 50 and 1,400 mOsm
366. Normal person excretes approximately 70 mEq/day of acid in the form of titratable acid (H^+) or ammonium ions (NH_4^+)
367. Urine volume range 600 to 2,000 mL in 24 hours
368. Urine volume average 1,200 to 1,500 mL in 24 hours
369. Normal random urine pH: pH 4.5 to 8
370. First morning urine pH: 5 to 6
371. 1 g/dL protein, raise urine specific gravity by refractometer or urinometer by 0.003
372. 1 g/dL glucose, raise urine specific gravity by refractometer or urinometer by 0.004
373. Calibration of refractometer using distilled water: 1.000
374. Calibration of refractometer using 5% NaCl: 1.022 ± 0.001
375. Calibration of refractometer using 9% Sucrose: 1.034 ± 0.001
376. Urine protein: less than 10 mg/dL or 100 mg/24 hours (Henry less than 150mg/24 hours)
377. Significant AER: 20 to 200 ug/min or 30 to 300 mg albumin/24 hours
378. Renal threshold for glucose is 160 to 180 mg/dL
379. Ketones: 78% BHA, 20% AAA and 2% Acetone
380. Concentration of myoglobin must be at least 25 mg/dL before a red pigmentation can be visualized
381. Ehrlich's units (EU) are EQUAL to mg/dL
382. Normal values for the Addis count: 0 to 500,000 RBCs, 0 to 1,800,000 WBCs and epithelial cells and 0 to 5,000 hyaline casts in a 12-hour urine
383. Centrifugation for urine microscopic exam: 400 RCF for 5 minutes
384. Volume of sediment, glass slide method 20 uL or 0.02 mL covered by 22 x 22 mm coverslip
385. More than 2 RTE cells/hpf indicates tubular injury and specimens should be referred for cytologic urine testingCM: 4th Edition Strasinger

CEREBROSPINAL FLUID (CSF)

386. Approximately 20 mL of CSF is produced every hour in the choroid plexuses and reabsorbed by the arachnoid villi
387. Total volume in adult: 140 to 170 mL
388. Total volume in neonate: 10 to 60 mL
389. Normal adult CSF 0 to 5 WBCs/uL
390. Neonates 0 to 30 WBCs/uL
391. Reactive lymphocytes in CSF, viral infections
392. Moderately elevated WBC count (less than 50 WBCs/uL) with increased normal and reactive lymphocytes and plasma cells may be indicative of MS or other degenerating neurologic disorders
393. Increased eosinophils in CSF: parasitic infections, fungal infections primarily COCCIDIOIDES IMMITIS
394. CSF glucose is approximately 60 to 70 percent that of plasma glucose
395. Normal CSF protein: 15 to 45 mg/dL
396. Normal concentration of glutamine in CSF: 8 to 18 mg/dL

SEMINAL FLUID
397. Liquefaction within 30 to 60 minutes
398. Volume 2 to 5 mL
399. pH 7.2 to 8
400. Sperm morphology: at least 200 sperms should be evaluated
401. Sperm viability, eosin-nigrosin stain, counting number of dead cells in 100 sperms
402. Motility is evaluate in approximately 20 high-power fields
403. Sperm concentration 20 M to 160 M per mL
404. Sperm count ≥ 40 M per ejaculate*
405. Most common dilution is 1:20 prepared using a MECHANICAL (positive-displacement) rather than a Thoma pipette
406. Minimum motility of 50% with a rating of 2.0 after 1 hour is considered normal
407. Fructose ≥ 13 umol per ejaculate
408. Specimens for fructose should be tested within 2 hours or FROZEN to prevent fructolysis
409. RAPE, presence of sperm: (1) enhancing specimen with XYLENE and examining under PHASE MICROSCOPY (2) ACP (3) seminal glycoprotein p30 (prostatic specific antigen [PSA]), which is present even in the absence of sperm (4) ABO, DNA
410. Motile sperm can be detected for up to 24 hours after intercourse, whereas nonmotile sperm can persist for 3 days. As the sperm die off, only the heads remain and may be present for 7 days after intercourse.

SYNOVIAL FLUID
411. Volume less than 3.5 mL
412. Normal: clear and pale yellow
413. Able to form 4 to 6 cm string
414. Less than 2,000 RBCs/uL
415. Less than 200 WBCs/uL
416. Glucose less than 10 mg/dL lower than the blood glucose

SEROUS FLUID: TRANSUDATES AND EXUDATES
417. Most reliable differentiation: Fluid-to-blood ratios for protein and LD
418. WBC counts greater than 1,000/uL and RBC counts greater than 100,000/uL are indicative of an exudate
PLEURAL FLUID
419. Pleural fluid cholesterol greater than 60 mg/dL or a pleural fluid to serum cholesterol ratio greater than 0.3 provides a reliable information that the fluid is an exudate
420. Fluid to serum total bilirubin ratio of 0.6 or more also indicates the presence of an exudate

421. Pleural fluid pH lower than 7.3 may indicate the need for chest-tube drainage, in addition to antibiotics in cases of pneumonia. The finding of pH as low as 6 indicates esophageal rupture that is allowing the influx of gastric fluid

PERITONEAL FLUID

422. RBC counts GREATER THAN 100,000/uL are indicative of BLUNT TRAUMA INJURIES
423. Normal WBC counts are less than 500 cells/uL and the count increases with bacterial peritonitis and cirrhosis
424. CA 125 antigen, source is from OVARIES, FALLOPIAN TUBES or ENDOMETRIUM

FECAL ANALYSIS

425. Large intestine is capable of absorbing approximately 3,000 mL of water
426. Most representative, for fecal fats; 3-day stool collection
427. Muscle fibers: slide is examined for 5 minutes. Only undigested fibers are counted, and the presence of more than 10 is reported as increased
428. Bleeding in excess of 2.5 mL/150 gram of stool is considered pathologically significant
429. Normal stool pH is between 7 and 8
430. pH below 5.5 in cases of CARBOHYDRATE DISORDERS

COMPLETE BLOOD COUNT

431. SCREENING PROCEDURE that is helpful in the diagnosis of many diseases, it is one indicator of the body's ability to fight disease, it is used to MONITOR the effects of drug and radiation therapy, and it may be employed as an INDICATOR OF PATIENT'S PROGRESS in certain diseased states such as infection or anemia.

HEMATOCRIT

432. TRAPPED PLASMA: amount of plasma that still remains in RBC portion after the microhematocrit has been spun. Increased in macrocytic anemias, spherocytosis, thalassemia, hypochromic anemia and sickle cell anemia
433. When comparing spun hematocrit results obtained on an electronic cell counter, the spun hematocrit results vary from 1 to 3% HIGHER because of this trapped plasma (unless cell counter has been calibrated).
434. Anticoagulated blood should be centrifuged within 6 hours of collection when the blood is stored at room temperature.
435. Overanticoagulation: FALSELY LOW due to shrinkage of cells
436. Air bubbles denote poor technique but do not affect the results
437. Incomplete sealing of the microhematocrit tubes: FALSELY LOW
438. Inadequate centrifugation of the microhematocrit tubes or allowing the tubes to stand longer than several minutes after centrifugation: FALSELY ELEVATED
439. Hematocrit may be expressed in either of two ways (1) as percentage, e.g., 42% or (2) as a decimal point, e.g., 0.42.

WHITE BLOOD CELLS COUNT

440. Count above 11 x 10 9th/L is termed LEUKOCYTOSIS
441. Mix the Thoma pipet for approximately 3 minutes to ensure hemolysis and adequate mixing
442. Manual counts, no more than 10-cell variation between the four squares

PLATELET COUNT

443. Prolonged BT and poor clot retraction are found when there is marked thrombocytopenia
444. EDTA: decreased platelet clumping but increased MPV
445. If concentration of EDTA exceeds 2mg/mL of whole blood, platelets may SWELL AND THEN FRAGMENT, causing invalidly higher count
446. Using Rees-Ecker diluting fluid, the platelet count must be completed within 30 minutes of

diluting in order to ensure against platelet DISINTEGRATION
447. 1% ammonium oxalate, the dilution is stable for 8 hours

ERTHROCYTE SEDIMENTATION RATE
448. Macrocytes tend to settle more rapidly than microcytes
449. Anisocytosis and poikilocytosis: falsely lower ESR
450. Agglutination: more rapid sedimentation rate
451. In severe anemia: ESR IS MARKEDLY INCREASED

SUGAR WATER TEST
452. Citrated whole blood
453. In anemia, the hemolysis may be slightly increased in PNH negative specimens
454. Use of defibrinated blood may cause positive results due to the hemolysis of traumatized RBCs
455. Test should be performed WITHIN 2 HOURS of obtaining the specimen

SUCROSE HEMOLYSIS TEST
456. Citrated whole blood
457. Increased hemolysis (<10%) may be found in leukemia or myelosclerosis
458. PNH: 10% to 80% hemolysis

ACID SERUM TEST
459. Whole blood defibrinated
460. When patient has received blood transfusions, less lysis occurs because of the presence of normal transfused red blood cells

461. Thyroxine (µg/dL to nmol/L) 12.9
462. X-axis: HORIZONTAL, ABSCISSA, INDEPENDENT VARIABLES
463. Y-axis: VERTICAL, ORDINATE, DEPENDENT VARIABLES
464. UREA: Colorimetric: diacetyl [inexpensive, lacks specificity]
465. UREA: Enzymatic: NH3 formation [greater specificity, more expensive]
466. CREATININE: Colorimetric: end point [simple, nonspecific]
467. CREATININE: Colorimetric: kinetic [rapid, increased specificity]
468. CREATININE: Enzymatic [measure ammonia colorimetrically or with ion-selective electrode]
469. URIC ACID: Colorimetric [problems with turbidity, several common drugs interfere]
470. URIC ACID: Enzymatic: UV [need special instrumentation and optical cells]
471. URIC ACID: Enzymatic: H2O2 [interference by reducing substances]
472. Constituents of a number of common foods, including BANANAS, VANILLA, TEA AND COFFEE, may react in the test for HMMA. HMMA is also VMA. 4-Hydroxy-3-Methoxymandelic acid (HMMA)
473. Laboratory personnel should be aware of the MECHANICAL HAZARDS of equipment such as CENTRIFUGES, AUTOCLAVES, and HOMOGENIZERS.
474. Third Taenia: Taenia asiatica or the Taiwan Taenia
475. Fungal elements fluoresce green with acridine orange
476. Reporting of normal urine crystals: reported as rare, few, moderate, or many per hpf
477. Abnormal crystals may be averaged and reported per lpf
478. Reagent for APT test: 1% NaOH
479. Infective stage of Leishmania to man: PROMASTIGOTE
480. Infective stage of Trypanosoma to man: TRYPOMASTIGOTE
481. Infective stage of Plasmodia to man: SPOROZOITES
482. Eosinophilic meningoencephalitis: ANGIOSTRONGYLUS CANTONENSIS
483. When an accident involving electrical shock occurs, the ELECTRICAL SOURCE MUST BE REMOVED IMMEDIATELY.
484. URINARY MEATUS: external urinary opening
485. POLYURIA: greater than 2.5 L/day in adults

486. OLIGURIA: less than 400 mL/day in adults
487. Yellow-orange specimen caused by the administration of phenazopyridine (brand name Pyridium) or azo-gantrisin compounds to people who have urinary tract infections [drug for UTI: orange and viscous urine]
488. CLINITEST tablets contain copper sulfate, sodium carbonate, sodium citrate, and sodium hydroxide
489. ACETEST provides sodium nitroprusside, glycine, disodium phosphate, and lactose in tablet form. The addition of lactose gives better color differentiation. Acetest tablets are hygroscopic; if the specimen is not completely absorbed within 30 seconds, a new tablet should be used.
490. Bence Jones protein coagulates at temperatures between 40°C and 60°C and dissolves when the temperature reaches 100°C.
491. Automated reagent strip readers: REFLECTANCE PHOTOMETRY
492. Casts have a tendency to locate NEAR THE EDGES OF THE COVER SLIP
493. Squamous epithelial cells: Rare, few, moderate, or many per LPF
494. Transitional epithelial cells: Rare, few, moderate, or many per HPF
495. RTE CELLS: AVERAGE NUMBER PER 10 HPFS
496. MUCOPOLYSACCHARIDES: Acid-albumin and the CTAB tests (+) thick, white turbidity
497. MUCOPOLYSACCHARIDES: Metachromatic staining spot test: BLUE SPOT
498. Very slight amount of OXYHEMOGLOBIN: PINK CSF
499. Conversion of oxyhemoglobin to unconjugated bilirubin: YELLOW CSF
500. Heavy hemolysis: ORANGE CSF
501. Red or brown seminal fluid: BLOOD
502. Normal appearance of gastric fluid: PALE GRAY with mucus
503. Amniotic fluid OD 450: When BILIRUBIN is present, a rise in OD is seen at 450 nm because this is the wavelength of maximum bilirubin absorption.
504. Rare: 0–10 bacteria/hpf
505. Few: 10–50 bacteria/hpf
506. Moderate: 50–200 bacteria/hpf
507. Many: >200 bacteria/hpf
508. First layer of spun hematocrit: FATTY LAYER
509. Second layer of spun hematocrit: PLASMA
510. Third layer of spun hematocrit: BUFFY COAT
511. Bottom layer of spun hematocrit: PACKED CELLS
512. Patients with CML negative for the Philadelphia chromosome: POOR PROGNOSIS
513. LEUKOCYTOSIS >11 x 10 9th/L
514. Forward light scatter: CELL SIZE
515. Side light scatter: CELL GRANULARITY
516. KERATOCYTES: helmet cells/with horn-like projections
517. ANTI-dsDNA: most specific antibody for SLE
518. Anti-smooth muscle antibody (ASMA): CHRONIC ACTIVE HEPATITIS
519. Polymerase chain reaction: MOLECULAR
520. Restriction fragment length polymorphism: MOLECULAR
521. Enhanced by acidifying patient serum: anti-M
522. Wiener and coworkers gave a name to one such agglutinin, calling its antigen I for “individuality.” The ANTIBODY REACTED WITH MOST BLOOD SPECIMENS tested.
523. For patients with history of FEBRILE NONHEMOLYTIC TRANSF REACTION: LEUKOPOOR RBCs
524. Irradiation of blood components: CESIUM
525. CORDOCENTESIS, or PERCUTANEOUS UMBILICAL BLOOD SAMPLING (PUBS), results in a

fetal blood specimen that can be used for rapid karyotyping or molecular studies.
526. Nuclear matrix protein (NMP-22): URINARY BLADDER CANCER
527. CARD PREGNANCY/POSITIVE: Two separate black or gray bands, one at T and the other at C, are visible in the results window, indicating that the specimen contains detectable levels of hCG. Although the intensity of the test band may vary with different specimens, the appearance of two distinct bands should be interpreted as a positive result.
528. CARD PREGNANCY/NEGATIVE: If no band appears at T and a black or gray band is visible at the C position, the test can be considered negative, indicating that a detectable level of hCG is not present.
529. CARD PREGNANCY/INVALID: If no band appears at C or incomplete or beaded bands appear at the T or C position, the test is invalid. The test should be repeated using another Card Pregnancy Test device.
530. CARD PREGNANCY: If the test band appears VERY FAINT, it is recommended that a new sample be collected 48 hours later and tested again using another Card Pregnancy Test device.
531. The standard screening method for HIV antibody has been the ELISA, and the standard confirmatory test is the Western blot.
532. Aside from Western blot, other confirmatory tests, including indirect immunofluorescence assay (IFA), radioimmunoprecipitation assay (RIPA), line immunoassays, and rapid confirmatory tests, have also been developed.
533. HBs ag: active infection
534. HBe ag: active hepatitis B with HIGH DEGREE OF INFECTIVITY
535. IgM anti-HBc: current or recent acute hepatitis B
536. Total anti-HBc: current or past hepatitis B
537. Anti-HBe: recovery from hepatitis B
538. Anti-HBs: immunity to hepatitis B
539. HBV DNA: acute, atypical, or occult hepatitis B; viral load may be used to monitor effectiveness of therapy
540. ITIS: inflammationSEVEN BASE SI UNITS
541. Length: METER
542. Mass: KILOGRAM
543. Time: SECONDS
544. Quantity of mass: MOLE
545. Electric current: AMPERE
546. Thermodynamic temperature: KELVIN
547. Luminous intensity: CANDELA
548. Main cause of TREND is DETERIORATION OF REAGENTS
549. Main cause of SHIFT is IMPROPER CALIBRATION OF THE INSTRUMENT
550. POCT: near-patient testing, decentralized testing, bedside testing and alternate-site testing
551. POCT: usually by nonlaboratorian personnel (nurses, respiratory therapists, etc)
552. Absorbance (A) = abc = 2-log%T
553. The bacteriological examination of water consists of (1) total plate counts (2) detecting the presence or absence of coliforms and the estimation of MPN (MOST PROBABLE NUMBER)
554. Water analysis, presumptive test: FORMATION OF GAS IN THE LACTOSE BROTH
555. Water analysis, confirmed test: FORMATION OF GAS IN BGBL BROTH or TYPICAL COLIFORM COLONIES ON EMB/ENDO AGAR
556. Water analysis, completed test: FORMATION OF ACID AND GAS IN THE LACTOSE BROTH and the DEMONSTRATION OF GRAM NEGATIVE NONSPOREFORMING BACILLI
557. Herpesviruses: cardinal feature of the group is LATENCY
558. Reoviruses: derivation of the word: R(respiratory), E(enteric), O(orphan)

559. ASCHOFF BODIES: rheumatic fever
560. CREOLA BODIES: cluster of columnar cells, bronchial asthma
561. ELEMENTARY BODIES: infectious particles of Chlamydia
562. SCLEROTIC BODIES: dark brown-black organisms, chromoblastomycosis
563. ASTEROID BODIES: concentric radiating eosinophilic material (ag-ab reaction), sporotrichosis
564. NEGRI BODIES: rabies
565. GUARNIERI BODIES: poxvirus
566. OWL'S EYE INCLUSION BODIES: cytomegalovirus
567. PSAMMOMA BODIES: elements with concentric striations of collagen-like materials, benign conditions, ovarian or thyroid carcinoma
568. KOPLIK'S SPOTS: MEASLES
569. Hand, foot and mouth disease: COXSACKIEVIRUS
570. In CYSTIC FIBROSIS of the pancreas, the increase IN NEUTRAL FATS confer the greasy "BUTTER-STOOL" appearance. PROGRESSIVE CHANGES
571. Hypertrophy - increase in size of an organ due to an increase in size of individual cells
572. Hyperplasia - increase in size of an organ due to increase in number of cells

RETROGRESSIVE CHANGES
573. Hypoplasia - failure of an organ to reach mature size
574. Aplasia - organ is represented only by mass of fatty or fibrous nodule
575. Agenesia - complete non-appearance of an organ
576. Atresia - failure of an organ to form an opening
577. Atrophy - ACQUIRED decrease in size of a normally sized organ

DEGENERATIVE CHANGES
578. Dysplasia - change in size, shape and orientation of cell
579. Metaplasia - change from one adult cell type to another
580. Anaplasia or Dedifferentiation - change to a more primitive or embryonic cell type
581. Neoplasia or Tumor - continuous abnormal proliferation of cells

MALIGNANT TUMOR
582. Carcinoma - malignant tumor of EPITHELIAL TISSUE origin
583. Sarcoma - malignant tumor of CONNECTIVE TISSUE origin

584. PRIMARY SIGNS OF DEATH (3)
Respiratory, circulatory and nervous failure

SECONDARY SIGNS OF DEATH (7)
Algor mortis - cooling
Rigor mortis - stiffening
Liver mortis - purplish discoloration
Dessication
Putrefaction
Postmortem clotting
Autolysis

585.CLASS SYSTEM
Class I - absence of atypical cytologic picture
Class II - atypical cytologic picture but no evidence of malignancy
Class III - cytologic picture SUGGESTIVE BUT NOT CONCLUSIVE of malignancy
Class IV - cytologic picture STRONGLY SUGGESTIVE of malignancy
Class V - cytologic picture CONCLUSIVE of malignancy.
... huwag malilito sa Class III at IV

III - suggestive but not conclusive
IV - strongly suggestive...

586. Visceral larva migrans (VLM): Toxocara cati, Toxocari canis
587. Cutaneous larva migrans (CLM): Ancylostoma braziliense, A. caninum
588. Infective stage is the sheathed filariform larva: HOOKWORM
589. Infective stage is the unsheathed filariform larva: THREADWORM
590. Semilunar cutting plates, BIPARTITE bursa: NECATOR AMERICANUS
591. Two pairs of teeth, TRIPARTITE bursa: ANCYLOSTOMA DUODENALE
592. Alkaline phosphatase immunoassay (APIA) for Schistosoma antibodies
593. NON-OPERCULATED AND MATURE (embryonated) when laid: SCHISTOSOMA eggs
594. OPERCULATED AND MATURE (embryonated) when laid: HETEROPHYES, OPISTORCHIS and CLONORCHIS eggs
595. Clonorchis, Opistorchis and Heterophyid egg CANNOT be differentiated under an ordinary light microscope.
596. OPERCULATED AND IMMATURE (unembryonated) when laid: FASCIOLA, FASCIOLOPSIS, PARAGONIMUS and ECHINOSTOMA eggs
597. Amoebic LIVER abscess (ALA) is the most common extra-intestinal form of amoebiasis
598. Entamoeba polecki cyst: consistently UNINUCLEATED (1 NUCLEUS)
599. ACHROMATIC karyosomal granules: IODAMOEBA BUTSCHLII
600. Amoeboflagellate: NAEGLERIA
601. Granulomatous amoebic meningoencephalitis: ACANTHAMOEBA
602. Gay bowel syndrome: G. LAMBLIA
603. Entero-string/String test: G. LAMBLIA
604. K39 and FAST (Fast Agglutination Screening Test) for Leishmania
605. Rupture of RBCs every 72 hours: P. MALARIAE
606. Band trophozoite: P. MALARIAE
607. Amoeboid trophozoite: P. VIVAX
608. Crescent-shaped gametocytes: P. FALCIPARUM
609. Cyclospora cayetanensis: cyanobacterium-like body (CLB)
610. Circumoval Precipitin Test (COPT) SCHISTOSOMES
611. Sabin Feldman Dye test: TOXOPLASMA
612. Sheather sugar flotation technique: CRYPTOSPORIDIUM
613. Stool preservatives: formalin, Schaudinn's solution, PVA (polyvinyl alcohol), MIF (merthiolate-iodine-formalin) and SAF (sodium acetate-acetic acid formalin)
614. Fecal concentration procedure (formalin-ether/ethyl acetate) FOUR LAYERS a) top layer of ether or ethyl acetate, b) a plug of fatty debris adherent to the wall of the tube, c) layer of formalin, and d) sediment.
615. DELAFIELD HEMATOXYLIN stain is mainly useful in demonstrating the detailed structures of MICROFILARIAE. 616. Iron conversion factor from conventional to SI (µmol/L): 0.179
617. Bilirubin conversion factor from conventional to SI (µmol/L): 17.1
618. Thyroxine conversion factor to SI (µg/dl to mmol/L): 12.9
619. Specimen collection & processing: Pre-analytical QA
620. Long term accuracy of analytical methods: External QC
621. Abrupt change: Shift
622. Gradual change: Trend
623. One control value exceeds +2s and another exceeds -2s: R4s
624. 2 consecutive ctrl values exceed the same mean +2s or -2s: 2:2s
625. Fixed-angle centrifuge advantages over the horizontal centrifuge: Lesser air friction, smaller increase in sample temperature, quicker sedimentation of small particles, and operated over higher speed
626. Used to determine whether there is statistically significant difference between the SD of 2 groups of data: f-test
627. Used to determine whether there is statistically significant difference between the means of 2 groups of data: t-test

628. Sample of known quantity with several analytes.: Control
629. Anticoagulant for cardiopulmonary bypass: Heparin
630. Basal state collection: Early morning blood collection
631. Uses 2 monochromators, affected by quenching: Fluorometry
632. Uses 2 photodetectors, for the sample beam and reference beam: Double – beam in space
633. Obsolete blood glucose methodologies: Folin- Wu, Nelson Somogyi
634. Chemical method for glucose, still widely used: Ortho-toluidine, condensation method
635. Test for chylomicrons, creamy layer on top: Standing plasma test
636. Apolipoprotein component of VLDL: Apo-B100
637. Transports exogenous triglycerides: Chylomicrons
638. Transports endogenous triglycerides: VLDL
639. Highest cholesterol content: LDL
640. One step method for cholesterol determination: Liebermann - Burchardt
641. Cholesterol esterase: Used in enzymatic method of cholesterol determination
642. CV of HDLc (NCEP Guidelines for Acceptable Measurement Error):≤ 4%
643. Assay for Uric acid that uses mercury arc vapor lamp: Enzymatic: UV
644. Greater specificity and more expensive BUN assay: Enzymatic: ammonia formation
645. Simple, Nonspecific test for Creatinine determination : Colorimetric: end point
646. Categories of Azotemia: Pre-renal, Renal, Post-renal
647. Test used to assess the ability to conjugate bilirubin and secrete bile: Total and Direct Bilirubin assay
648. Gamma spike/ Monoclonal gammopathy: Multiple myeloma
649. Beta-gamma bridging: Hepatic cirrhosis
650. Reaction rate is directly proportional to substrate concentration: First-order kinetics
651. Enzyme specific for both pancreas and salivary glands: Amylase
652. Clinically significant if decreased: Cholinesterase
653. Substrate used in Bowers-McComb method for ALP activity measurement: p-nitrophenylphosphate
654. Chief counterion of sodium: Chloride
655. Driving force of bicarbonate buffer system: CARBON DIOXIDE
656. Chloride and Bicarbonate relationship: Reciprocal
657. Confirmatory test for Acromegaly: Glucose suppression test
658. Increased in Hypothyroidism (primary): TSH
659. T3 uptake levels in Hypothyroidism : Decreased
660. Begins with patient identification and continues until testing is completed and the results are reported : Chain of custody
661. Requires whole blood EDTA sample: Cyclosporine and Tacrolimus tests
662. Method of choice for measuring antidepressants: HPLC
663. Gold standard for drug testing: GC-MS
664. Inhibits acetylcholinesterase: Organophosphates & Carbamates
665. Dissociable substance that yields hydrogen ions: Acid
666. Dissociable substance that yields hydroxyl ions: Base
667. Dissociable substance that accepts hydrogen ions: Base
668. Dissociable substance that accepts hydroxyl ions: Acid
669. Comparing patient's results with previous results: Delta check
670. POCT is most often performed by nurses, perfusionists (who operate heart-lung machine during open heart surgery), respiratory therapists and physician themselves.

671. Expressed in Ehrlich units (mg/dl):Urobilinogen
672. Used to differentiate myoglobin and hemoglobin: Blondheim's test
673. Degree of Hazard 1:Slight hazard
674. Degree of Hazard 2:Moderate hazard
675. Degree of Hazard 3:Serious hazard
676. Degree of Hazard 4:Extreme hazard
677. Handwashing: Clean between fingers 15 sec (or 20 sec , 6th ed), downward

678. When skin or eye contact occurs, the best first aid is to immediately: Flush the area with water for at least 15 minutes and then seek medical attention
679. Preservative of choice for urine cytology studies: Saccomano's fixative
680. Urine specimen for Urobilinogen: Afternoon sample (2-4pm)
681. Storage conditions for reagent strip: Cool, dry place
682. Reagent incorporated in Ketone pad: Sodium nitroprusside
683. Hoesch Test: Ehrlich's reagent in 6M HCl
684. Speckled pattern on blood parameter: Hematuria
685. Principle of Automated Reagent Strip Reader: Reflectance photometry
686. Soluble in dilute acetic acid: Red blood cells, amorphous phosphates, carbonates
687. Soluble in ether: Lipids, chyle, lymphatic fluid
688. Appear microscopically as yellow brown-granules and produce a characteristic pink sediment (brick dust), uroerythrin: AMORPHOUS URATES
689. Cause a white precipitate following specimen refrigeration :Amorphous phosphates
690. Tubular injury: 2 or more RTE cells per HPF
691. Telescoped sediment: Elements of glomerulonephritis and nephrotic syndrome
692. Glitter cells: Neutrophils seen in hypotonic urine
693. Formation of casts: Hyaline→cellular→granular→waxy
694. Hyaline cast consists entirely of: Uromodulin
695. Crystals seen in liver disease: Bilirubin, tyrosine, leucine
696. Forms of Struvite: Coffin-lid, Feather-like, Fern-leaf, Prism, Colorless sheets, Flakes
697. Ethylene glycol poisoning: Monohydrate Calcium Oxalate (oval, dumbbell)
698. Most frequent parasite encountered in urine: Trichomonas vaginalis
699. Fecal contaminant in urine: Pinworm ova
700. Diluent for CSF WBC Count: 3% Glacial HAc with methylene blue
701. Precipitation test for CSF total protein: TCA and SSA
702. Positive for pellicle clot formation: Tubercular meningitis
703. Oligoclonal bonding in CSF bonding but not in serum → Multiple sclerosis, encephalitis, Guillain-Barre syndrome and neurosyphilis
704. Semen fructose test is not tested within 2 hours: Specimen must be FROZEN
705. Reagent used in Florence test which detects choline: Potassium iodide, Iodine
706. Used to assess sperm cell velocity and trajectory: Computer-assisted semen analysis (CASA)
707. Normal volume of synovial fluid: less than 3.5 ml
708. Normal synovial fluid glucose:<10mg/dl lower than blood glucose
709. Cells seen in synovial fluid which resembles polished rice macroscopically: Rice bodies
710. Type of effusion caused by congestive heart failure: Transudate
711. Sputum: Not a normal body fluid, tracheobronchial secretions
712. Important diagnostic test for Pneumocystic carinii in immunocompromised patients: Bronchoalveolar lavage
713. Tests for Neural Tube defects: AFP, acetylcholinesterase
714. Microviscosity test for fetal lung maturity: measured by FLUORESCENCE POLARIZATION
715. Green amniotic fluid: MECONIUM
716. Dark red-brown color of amniotic fluid: FETAL DEATH
717. Normal Gastric fluid appearance: PALE GRAY WITH MUCUS
718. Noninvasive test to determine gastric acidity: DIAGNEX TUBELESS TEST
719. Collagen-like material with concentric striations seen in ovarian and thyroid carcinomas: PSAMMOMA BODIES
720. Melena: BLACK AND TARRY STOOL

721. Laminar flow: Biosafety Cabinet class II
722. HEPA filter: Removes org > 0.3 um (bacteria, fungi)
723. Blood culture collection: 2-3 samples (Max 3-4) at least 1 hour apart in 24 hours
724. Grade A milk: <75,000 bacteria per mL when raw, and <15,000 bacteria once pasteurized
725. Enteric agar: XLD, EMB, HEA
726. Rickettsial stains: Gimenez, Macchiavello

727. Concentration of Hydrogen Peroxide as disinfectant: 3% H_2O_2
728. MIO medium: Motility Indole Ornithine
729. Quaternary ammonium compounds are inactivated by: Organic substances
730. Fite-Faraco stain: Hematoxylin as counterstain instead of methylene, AFB
731. Sodium polyanethol sulfonate: Anti-phagocytic, anti-complement
732. Bromthymol blue as indicator: HEA, TCBS, Simmon's citrate agar
733. Nasopharyngeal swabs: H. influenzae, N. meningitidis, B. pertussis
734. Inhibits gram-positive bacteria: Crystal violet and sodium desoxycholate (bile salt)
735. Inhibits gram-negative bacteria: Sodium azide, phenylethyl alcohol
736. Detects gram-negative endotoxin: Limulus lysate test
737. Protein A: Staphylococcus aureus, coagglutination
738. Slime layer production: Staphylococcus epidermidis
739. Protein M: Streptococcus pyogenes
740. Colonies with ground glass appearance: Legionella (Mahon)
741. Increased resistance of Pseudomonas aeruginosa to aminoglycosides: Increased calcium and magnesium
742. Smallest free-living organism: Mycoplasma
743. Benchmarking: Comparison with peers
744. Histoplasma crossreacts with: Blastomyces, Aspergillus and Coccidioides
745. Aman medium stain: Lactophenol cotton blue
746. Czapek's medium: Isolation of Aspergillus
747. African histoplasmosis: Histoplasma duboisii
748. Test for Candida albicans that uses serum: Germ tube test
749. Chlamydospore production of Candida albicans: Cornmeal agar
750. Candidiasis infection affecting the oral cavity: Thrush
751. General isolation media for fungi: Saboraud's dextrose agar
752. Major biologic hazard to laboratory personnel: Coccidioides immitis
753. Sensitive fungal (fluorescent) dye that binds to cell wall: Calcofluor white
754. Chromoblastomycosis: Sclerotic bodies
755. Rose gardener's disease: Sporotrichosis
756. Eosinophilic material due to antigen-antibody reaction in cases of sporotrichosis: Asteroid body
757. Largest DNA virus: Poxvirus
758. Smallest DNA virus: Parvovirus
759. Largest RNA virus: Paramyxovirus
760. Smallest RNA virus: Enterovirus (Picornaviridae)
761. Cross reactive antigen in all human adenoviruses: Hexon
762. Gastroenteritis in children during winter months: Rotavirus
763. Nonbacterial gastroenteritis in adults: Norovirus
764. Toxic to HSV: Calcium alginate
765. Isolation medium for Cytomegalovirus: Human fibroblast cells
766. True amoeba: GENUS Entamoeba
767. Trophozoite with ingested red blood cell: Entamoeba histolytica
768. Trophozoite with ingested WBC: Entamoeba gingivalis
769. Gay bowel syndrome: Giardiasis
770. Cercaria minus a tail: Schistosomule
771. Infective stage of Diphyllobothrium latum: Plerocercoid larva
772. Resembles Diphyllobothrium latum adult: Spirometra
773. Passing of proglottids of Taenia: Irritated by ALCOHOL
774. Taenia spp. eggs: Hexacanth embryo with thick radial striations
775. Cercarial dermatitis: Schistosomes

776. Length of needle in routine phlebotomy: 1.0 – 1.5 inches
777. Angle of draw in venipuncture: 15 to 30 ° angle (15 degree angle)
778. The distance of drop of blood from the edge of the slide: 1 cm

779. Blood production outside the bone marrow: EXTRAmedullary hematopoiesis
780. Hematopoietic stem cell marker: CD 34
781. Common acute lymphocytic leukemia antigen: CD 10
782. Test for Hemoglobin S which uses black line: Dithionate solubility test
783. Starry sky pattern under low power imparted by numerous macrophages with apoptotic debris: Burkitt's lymphoma
784. Granules (tertiary granules) present in Neutrophil: Alkaline phosphatase
785. Euglobulin clot lysis time: Screening test for fibrinolysis
786. Screening test for PNH: Sugar water screening test
787. Derived from RBC Histogram: MCV, RDW
788. Derived from Platelet Histogram: MPV, PDW
789. In cyanmethemoglobin method, all hemoglobin are measured, except: Sulfhemoglobin
790. Color of blood in sulfhemoglobinemia: Mauve lavender
791. Patient with PNH received blood transfusion: Less lysis due to the presence of normal RBCs transfused
792. Positive instrumental errors: Bubbles in the sample, extraneous electrical pulsesand aperture plugs (most common)
793. Negative instrumental error: Excessive lysing of RBCs
794. Instrumental error that is either a positive or negative error: Improper setting of aperture current or threshold
795. Purplish red pinpoint hemorrhagic spots: Petechiae
796. Blood escapes into SMALL areas of skin and mucous membrane: Purpura
797. Blood escapes into LARGE areas of skin, mucous membrane, and other tissues: Ecchymosis
798. Primary hemostasis: Vasoconstriction
799. Outer surface of platelet: Glycocalyx
800. Contains microtubules that maintains platelet shape: Sol-gel zone
801. Platelet estimate of 100,000 to 149,000/µL: Slight decrease
802. Platelet estimate of 150,000 to 199,000/µL: Low normal
803. Labile factors: Factors V and VIII
804. Prematurely activates at cold temperature: Factors VII FXI
805. Vitamin K-dependent factors: Factors II, VII, IX, X
806. Normal value for TEMPLATE bleeding time:6 – 10 minutes
807. Christmas factor: Factor IX
808. Rosenthal syndrome: Factor XI deficiency
809. Platelet estimate of 401,000 to 599,000/µl: Slight increase
810. Platelet estimate of 600,000 to 800,000/µL: Moderate increase811. A surgical connection between to structures, it usually means a connection that is created between tubular structures, such as blood vessels or loops of intestines: ANASTOMOSIS
812. Polyclonal antibodies used in immunohistochemical techniques are frequently derived from: RABBIT
813. Most rapid of the common freezing agents: LIQUID NITROGEN
814. General purpose fixative: 10% neutral buffered formalin
815. Protein fixation: Neutral buffered formol saline or formaldehyde vapor
816. Fixatives for nucleic acids: Ethanol, methanol and Carnoy's solution
817. Amount of fixative used has been 10 to 25 times the volume of tissue to be fixed. Recently, the maximum effectiveness of fixation is noted to be 20 times the tissue volume.
818. Recommended ratio of fluid to tissue volume for DECALCIFICATION is 20 to 1
819. Amount of dehydrating agent should not be less than 10 times the volume of tissue
820. Dehydration: Low grade to high grade alcohol

821. Absence of water: WHITE anhydrous copper sulfate
822. Presence of water: BLUE anhydrous copper sulfate
823. Clearing: Dealcoholization
824. Most rapid embedding technique: Vacuum embedding
825. Automated tissue processor: Fix, dehydrate, clear, and infiltrate
826. Histochemical demonstration of ENZYMES: FROZEN SECTION
827. ACRIDINE ORANGE is the most commonly used fluorochrome to demonstrate DNA and RNA in fresh or fixed tissues.
828. Von Kossa's silver nitrate method: Calcium salts = black
829. Red chromogen for peroxidases: Aminoethylcarbazole (AEC)
830. Brown chromogen for peroxidases: Diaminobenzidine (DAB)
831. Administrative investigation:2 members of board + 1 legal officer
832. Policies and guidelines for Med Tech Education: CMO no. 14 s. 2006
833. Accreditation of clinical lab for training MT interns: CMO no. 6 s. 2008
834. STAT, STATIM: Immediately
835. Biodegradable wastes: Green bag836. Urine for routine urinalysis: 10 to 15 ml urine (50 ml-container capacity)
837. Urine for drug testing: 30 to 45 ml (60 ml-container capacity)
838. Urine for cytology: at least 50 ml urine (Gregorios)
839. Venipucture: 15 to 30 degree angle
840. Arterial puncture: 45 to 60 degree angle (90 degrees for femoral artery)
841. Before blood is collected from the radial artery in the wrist, one should do a MODIFIED ALLEN TEST to determine whether the ulnar artery can provide collateral circulation to the hand after the radial artery puncture.
842. Central Venous Assess (CVA) collection: eliminates multiple phlebotomies and surgical situations. Five (5) ml of blood must be drawn and discarded to eliminate contaminants. CVA is not recommended for bacteriology (organisms can contaminate specimen)
843. Order of draw from CATHETER LINES: First 3 to 5 ml blood is discarded THEN, blood culture, anticoagulated tubes and clot tubes.
844. Donor bleeding: 45 degree angle to the skin, make a quick clean puncture; once in the skin, reduce the angle of the needle to about 10 to 20 degrees
845. Anaerobic and require ICE slurry (immediate cooling): Lactic acid, ammonia, blood gas (if not analyzed within 30 min = ↓ pH, and po2), iCa+2 (heparinized whole blood if not analyzed within 30 min)
846. C-Peptide test: evaluates hypoglycemia and continuous assessment of beta cell function
847. Increased C-peptide: Insulinoma, type 2 DM, ingestion of hypoglycemic drugs
848. Decreased C-peptide: Type 1 DM
849. Colorimetric method for Triglycerides: van Handel and Zilversmith
850. CDC reference method: Modified van Handel and Zilversmith
851. Fluorometric method for Triglycerides: Hantzch condensation
852. Largest and least dense: CHYLOMICRONS
853. Smallest but the most dense: HDL
854. Found in obstructive jaundice and LCAT deficiency: Lipoprotein X
855. Floating beta lipoprotein: β-VLDL
856. Sinking pre-beta lipoprotein: Lp (a)
857. Triglycerides, LDLc: FASTING 12 to 14 hours
858. Formula for LDLc: Total cholesterol – HDL – VLDL
859. Friedewald VLDLc (mmol/L): Triglycerides/2.175
860. De Long VLDLc (mmol/L): Triglycerides/2.825

861. Friedewald VLDLc (mg/dL): Triglycerides/5
862. De Long VLDLc (mg/dL): Triglycerides/6.5
863. ONE-STEP direct method for cholesterol: LIEBERMANN-BURCHARDT (L-B)
864. One-step method for cholesterol: Colorimetry (Pearson, Stern and MacGavack)
865. Two-step method for cholesterol: C + Extraction (Bloors)
866. Three-step method for cholesterol: C+ E + Saponification (Abell-Kendall)
867. Four-step method for cholesterol: C + E + S + Precipitation (Schoenheimer, Sperry, Parekh and Jung)
868. CDC reference method for cholesterol: Abell, Levy and Brodie method
869. Modification of the ABELL-KENDALL method continues as the REFERENCE METHOD for cholesterol used by the CDC (Henry)
870. TANGIER'S DISEASE: HDL is abnormal and significantly reduced871. Activated at cold temperature: Factors VII and XI (seven, eleven)
872. Labile factors, decrease on storage: Factors V and VIII (five, eight)
873. Wintrobe tube: 11.5 cm long, 3 mm bore
874. Westergren tube: 30 cm long, 2.5 mm bore
875. Capillary tube: 7 to 7.5 cm (70-75 mm) long, 1 mm bore (1.2 mm)
876. Macrohematocrit: Centrifuge at 2,000 to 2,300 g for 30 minutes
877. Microhematocrit: Centrifuge at 10,000 to 15,000 g for 5 minutes (five minutes)
878. Normocytic, normochromic: Acute blood loss, hemolytic anemia, aplastic anemia
879. Microcytic, hypochromic: Anemia of chronic disease, thalassemia, IDA and sideroblastic anemia
880. Macrocytic, normochromic: MEGALOBLASTIC ANEMIA
881. Poikilocytosis: DECREASED ESR
882. Correction for WBC count, Adult: 5 or more nucleated RBCs/100 WBC differential
883. Correction for WBC count, Neonate: 10 or more nucleated RBCs/100 WBC differential
884. Increased EDTA: Decreased hematocrit, decreased ESR
885. Hemoglobinopathies: QUALITATIVE defect in hemoglobin
886. Thalassemia: QUANTITATIVE defect in hemoglobin
887. Responsible for clot retraction: THROMBOSTHENIN
888. Electromechanical detection of fibrin clot: FIBROMETER
889. Photo-optical detection: Electra, COAG-A-MATE, Ortho-Koagulab
890. Complement-dependent cytotoxicity: INVERTED PHASE CONTRAST microscope
891. Stains for the BASEMENT MEMBRANE: PAS and azocarmine
892. Fixatives for H & E: All fixatives can be used except those that contain osmic acid. Osmic acid (like Flemming's) inhibits hematoxylin
893. Manual H & E staining: REGRESSIVE STAINING, it includes a differentiation step
894. Harris hematoxylin: Primary/Basic/Nuclear stain
895. Eosin: Secondary/Counterstain/Acid/Cytoplasmic stain
896. Stain of choice for cytology: ORIGINAL Pap's stain
897. Pap's stain consists of 3 stains: Harris hematoxylin, Orange green (OG6) and Eosin Azure (EA)
898. Harris hematoxylin: stains the nucleus
899. OG 6: stains the cytoplasm of mature cells (superficial cells)
900. EA 36/50/65: stains the cytoplasm of immature cells (parabasal, intermediate cells) LEGACY OF PAMET PRESIDENTS
901. FIRST PRESIDENT: Charlemagne T. Tamondong "Emergence of the Profession" (1963-1967)
902. Nardito D. Moraleta "Professional Recognition" (1967-1970)
903. Felix E. Asprer "Legislative Agenda" (1970-1971, 1973-1976)
904. Bernardo T. Tabaosares "Celebration of the Practice" (1971-1973)
905. Angelina R. Jose "Career Advocacy" (1973)

906. Venerable C.V. Chua (Venerable OCA) "Educational Enhancement" (1977-1981)
907. Carmencita P. Acedera "Image Building" (1982-1991)
908. Marilyn R. Atienza "Proactivism" (1992-1996)
909. Norma N. Chang "International Leadership" (1997-2000)
910. Agnes B. Medenilla "Organizational Dynamism" (2001-2002, 2005-2006)
911. Shirley F. Cruzada "Interdisciplinary Networking" (2003-2004)
912. Leila M. Florento "Beyond Expectations" (2007-2012)
913. Romeo Joseph J. Ignacio "Soar Higher through V.O.I.C.E." Visibility, Oneness, Integrity, Commitment and Excellence (2013 - 2015)
914. Ronaldo E. Puno (2015-present)

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915. FATHER OF PAMET: CRISANTO ALMARIO
916. PAMET was originally organized on SEPTEMBER 15, 1963
917. PAMET HYMN Music: Francis Jerota Pefanco
918. PAMET HYMN Lyrics: Hector Gentapanan Gayares, Jr.
919. Current PAMET President: Ronaldo E. Puno
920. Current PASMETH President: Bernard U. Ebuen
921. Board of MT Head: Dr. Marietta Baccay
922. Board of MT Member: Marilyn Atienza
923. Board of MT Member: Marian Tantingco
924. PRC CHAIRPERSON: TEOFILO S. PILANDO, JR.
925. DOH SECRETARY: DR. PAULYN JEAN B. ROSELL-UBIAL926. BIPHASIC MEDIUM/CASTANEDA BOTTLES: BRUCELLA
927. CIN medium: Y. enterocolitica
928. CCFA: C. difficile
929. BCYE medium: Legionella
930. HBT medium: Gardnerella
931. ssDNA: Parvovirus
932. dsRNA: Reovirus
933. Smallest RNA virus: Enterovirus (Picornaviridae)
934. Acid-resistant: Enterovirus
935. Acid-sensitive: Rhinovirus
936. KOPLIK'S SPOTS: MEASLES
937. Measles: RUBEOLA
938. German measles: RUBELLA
939. Chickenpox: VARICELLA
940. Odor of bitter almonds: CYANIDE
941. Garlic on breath, metallic taste on mouth: ARSERNIC
942. Legally intoxicated: Blood alcohol greater than 100 mg/dL (0.10%)
943. Potentiometry: measurement of pH and pCO_2
944. Amperometry: measurement of pO_2
945. High affinity to keratin: ARSENIC
946. Visible region: 400 to 700 nm
947. UV region <400 nm
948. Infrared region > 700 nm
949. Cholesterol, acceptable CV ≤ 3%
950. Triglyceride, acceptable CV ≤ 5%
951. HDLc, LDLc acceptable CV ≤ 4%
952. OBESE BMI ≥ 30 kg/sq.m.

953. Overweight BMI 25 to 29.9 kg/sq.m.
954. Underweight BMI < 18.5 kg/sq.m.
955. BASAL STATE: early morning before the patient has eaten or become physically active956. STAT for the Latin word statim meaning immediately. Tests that fall into this category include:
a. Glucose in diabetic ketoacidosis
b. Some drug levels such as theophylline
c. Amylase in suspected pancreatitis
d. CK in suspected MI
e. Hematocrit
f. Blood gases
g. Potassium

957. CRITICAL VALUES or PANIC VALUES: list of analytes that truly do have the potential to be lethal if unchecked for a short period.
958. SCHILLING TEST: Laboratory determination of vitamin B12 absorption

959. Hemostatic mechanisms comprise four (4) main systems: the vascular system, platelets, coagulation system and fibrinolytic system.

960. OSMOLALITY
a. Osmolality = 2Na + (Glucose/20) + (BUN/3)
b. Osmolality = 1.86Na + (Glucose/18) + (BUN/2.8) + 9
961. Anion gap
a. AG = Na - (Cl + HCO3)
b. AG = (Na + K) – (Cl + HCO3)

NORMAL URINARY CRYSTALS
962. Uric acid is alkali soluble
963. Amorphous urates - soluble in alkali and heat
964. CaOx - soluble in dilute HCl
965. Amorphous phosphates - soluble in dilute acetic acid
966. Calcium phosphate - soluble in dilute acetic acid
967. Triple phosphate - soluble in dilute acetic acid
968. Ammonium biurate - soluble in acetic acid with heat
969. Calcium carbonate - forms gas from acetic acid

ABNORMAL URINARY CRYSTALS
970. Cystine is soluble in ammonia, dilute HCl
971. Cholesterol is soluble in chloroform
972. Leucine is soluble in hot alkali or alcohol
973. Tyrosine is soluble in alkali or heat
974. Bilirubin is soluble in acetic acid, HCl, NaOH, ether and chloroform
975. Sulfonamides soluble in acetone
976. Radiographic dye soluble in 10% NaOH
977. Ampicillin crystals form bundles when refrigerated
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978. F. tularensis is a very small, strictly aerobic, coccoid to pleomorphic rod-shaped, gram-negative bacillus that requires CYSTINE or CYSTEINE for growth
979. Legionella spp. may be isolated on BCYE agar supplemented with growth factors, including L-CYSTINE, FERRIC SALT, AND A-KETOGLUTARATE.
980. Bordetella spp. are strictly aerobic, nonfermentative, catalase-positive, minute coccobacilli requiring NICOTINIC ACID, CYSTEINE, and usually METHIONINE, for growth.

981. MEDICAL MALPRACTICE is misconduct or lack of skill by a health-care professional that results in injury to the patient.
982. NEGLIGENCE, which is defined as failure to give reasonable care by the health-care provider, must be proven in a malpractice suit.
983. SERUM or PLASMA is the specimen of choice for the determination of circulating concentrations of most drugs. THERAPEUTIC DRUGS, BISHOP
984. Analysis for the presence of ABUSED SUBSTANCES has focused primarily on the use of URINE as the test sample of choice. The urine specimen represents the net load of the drug over a long period, whereas the blood sample provides only a quick picture of the drug level at a specific time. DRUGS OF ABUSE, CALBREATH
985. CHAIN OF CUSTODY
Processing steps for such specimens—initial collection, transportation, storage, and analytical testing— must be documented by careful record keeping. Documentation ensures that there has been no tampering with the specimen by any interested parties, that the specimen has been collected from the appropriate person, and that the results reported are accurate.
Each step of the COLLECTION, HANDLING, PROCESSING, TESTING, AND REPORTING PROCESSES must be documented; this is called the chain of custody.
986. RICE BODIES are fragments of degenerating proliferative synovial cells or microinfarcted synovium.
987. OCHRONOTIC SHARDS, ground pepper appearance from pigmented cartilage fragments may be the result of a metabolic disorder (i.e., ochronosis).
988. PROBLEMS: RBCs appear gray, WBCs are too dark, eosinophil granules are gray, not orange. CAUSES: Stain or buffer too alkaline (most common), inadequate rinsing, prolonged staining, heparinized blood sample.
989. PROBLEMS: RBCs are too pale or are RED, WBCs are barely visible. CAUSES: Stain or buffer too acidic (most common), underbuffering (too short), over-rinsing.
990. HBeAg indicates HIGH INFECTIVITY.
991. CORDOCENTESIS, or percutaneous umbilical blood sampling (PUBS).
SPECIAL URINE PRESERVATIVES
992. Formaldehyde – for Addis count
993. Conc, HCl – for epinephrine, norepinephrine, catecholamines, vanillylmandelic acid
994. Glacial acetic acid pH 4.5 – for aldosterone
995. Sodium carbonate – for porphyrins and urobilinogen (to ensure alkalinity)
996. Glacial acetic acid pH 2.0 – for serotonin
997. Conc. HCl – for steroids, ammonia, urea, total nitrogen
998. Chloroform – for aldosterone
999. Sulfuric acid – preserves calcium and other inorganic constituents
1000. Sodium fluoride or benzoic acid – ideal for glucose analysis, prevents glycolysis