

ModelCOC exam For medical laboratory technology students
1 parasitology

Name _____ **Id. N°** _____ **Sec** _____

Directions: Form the given bellow choose the best appropriate one and write on the space provided to you

1. Hydatid disease is caused by
A. Echinococcus granulosus
B. Bovine tape worm
C. Rat tape worm
D. None
2. The infective stage of liver, intestinal and lung flukes is
a. Embryonated egg
b. Miracidium
c. Cercariae
d. Metacercariae
3. Which parasite has sucking disc, four pairs of flagella, two nuclei and two axonemes
A. Trichomonas hominus
B. **Giardia Lamblia**
C. Clonostix Merselli
D. None
4. It is known human pathogenic flagellate
A. Trichomonas hominus
B. Clonostix Merselli
C. Giardia Lamblia
D. All
5. Among the listed below, which parasite do not have cyst stage?
A. Giardia Lamblia
B. **Trichomonas vaginalis**
C. Banantidium coli
D. A and B
6. It is the largest ciliated animal parasite occasionally infect human being
A. Isospora belli
B. **Balantidium coli**
C. E. coli
7. Which of the following is not a cestode?
A. D. Latum
B. Hymenolepis
C. Schistosoma
D. Taenia
8. Which is/are/ common in immune compromised?
A. Isospora belli
B. Cryptosporidium
C. Both a and b
D. None
9. All of the following are trematodes /flukes / **except/**
A. **Taenia spp.**
B. Schistosomes
C. Paragonimus
D. fasciola
10. P. falciparum is different from the other species in that
A. It is very thin and small ring stage.
B. Causes double infection
C. Causes destruction of many RBC
D. All

11. Which type of plasmodium spps have hypinozoite /dormant/ stage
A. Pl. flaciparum **C. Pl. vivax**
B. Pl. malaria D. None
12. It has a characteristics of forming bird's eye, and bands
A. Pl. falciparum C. Pl. vivax
B. Pl. malaria D. None
13. The iodine mount is used to demonstrate all of the following **except**
A. Chromatin materials **C. Motility**
B. Glycogen mass D. All
14. It is the responsible vector to transmit malaria
A. Female sandfly C. Male and fly
B. Maleanopheles **D. Female anopheleus mosquito**
mosquito
15. Banana and crescent shaped gametocyte is the characteristics of
A. Pl. vivax **C. Pl. falciparum**
B. Pl. malaria D. Pl. Ovalae
16. If cryptosporidium are suspected, the permanent smear should be done with
A. Gram stain **C. Acid fast stain**
B. Iodine stain D. Wright stain
17. Thick and thin blood smears are prepared for the detection of intra erythrocytic parasite. The use of thin smear preparation is
a. For concentration of eosinophila **c. For differentiation of species**
b. For concentration of parasite d. All
18. The trophozoite stage of one of the parasite is fragmented and irregular cytoplasm with schuffner's dot.
A. Pl. falciparum **C. Pl. vivax**
B. Pl. malaria D. A and B
19. Suppose you have found 56 ring stage of plasmodium falciparum in 100 fields. The correct standard way of reporting this parasite in the plus code is
A. + B. ++ C. +++ D. ++++
20. Consistency of the stool may indicate the form of the parasite that might be present. Formed stool are more likely to contain
A. Trophozoite only C. Sporozoite
B. Cyst only D. No parasite
21. Serological methods are particularly useful to defect extra intestinal infection with
A. Entameobadispar C. Entameoba coli
B. Entameobahistolytic
a

22. A total of 8 and 4 nuclei may be found in the amoeba cyst of _____ and _____ respectively.
A. *E. histolytica* and *E. coli* **C. *E. coli* and *E. histolytica***
B. *E. nana* and *E. histolytica* D. None
23. Which vector is responsible to transmit African trypanosomiasis or sleeping sickness?
A. Reduvide bug **C. Tsetse fly**
B. Sand fly D. Horse fly
24. Xenodiagnosis test is used to diagnose
A. Trypanosome B. gambiense **C. TrypanosomeCruzi**
B. Trypanosome B. rhodesiense
25. The infectivestage of trypanosome is
A. Epimastigote C. Procyclictrypomastigote
B. Metacyclitrypomastigote
26. Ingestion of RBC is the characteristics of
A. *E. histolytica* C. *E. dispar*
B. *E. hartmani* D. *E. Coli*
27. A large kidney shaped is characteristics of
A. *Giardia Lambelia* D. *Isospora belli*
B. *ClomastixMenselli*
C. *Blalartidium coli*
28. In the lab diagnosis of ameobiasis, the most confusing spp. Of ameobic with pathogenic one is?
A. *E. coli* C. *E. gingivalis*
B. *E. nana* D. *E. dispar*
29. The largest intestinal round worm is
A. *E. vermicularis* C. *TrichurisTrichuria*
B. AscarisLumbricoide
s
30. A barrel shaped parasite which has plug at both ends is
A. *AscarisLumbricoides* C. Pin worm
B. Whip worm D. None
31. A parasite which has thick wall, colorless, and flatend at one side is
A. *AscarisLumbricoides* **C. Pin worm**
B. Whip worm
32. Which of the following parasite do not cause heart- lung migration?
A. *Strongyloidesstercoralis* C. Hook worm
D. *E. vermicularis*
B. *AscarisLumbricoides*
33. It is known in causing elephantiasis
A. *Dracunculusmedines* B. Loa- Loa
is **C. W. bancrofti**
34. A thin black wall intestinal nematodes usually oval or round

- A. TrichurisTrichuria
B. AscarisLumbricoides
C. Hook worm
D. Not given
35. It is/are used to prevent and control AscarisLumbricoides infection
A. Using latrine
B. Avoid using untreated human faeces as fertilizer
C. Treat infected person
D. **All**
36. Which one is communally used to preserve parasite in stool specimen?
A. Lugol's iodine
B. **10% formalin**
C. Physiological saline
D. 70% alcohol
E. A and B
37. Cyst of E. histolytica can be differentiated from other cyst of amoeba by
A. Size, number of nuclei
B. Motility, pseudopodia, inclusion
C. Karyosome and chromatoid bodies
D. A and C only
38. Assume four stool specimens were brought to a laboratory each with the following consistency, which stool specimen should be examined first?
A. Soft and unformed one
B. Formed
C. **Liquid and watery**
D. Hard
39. Entero capsule test is useful for laboratory diagnosis of
A. E. histolytica
B. G. Lamblia
C. Trichomonas vaginalis
D. Cryptosporidium
40. Capillary centrifugation concentration technique (buffy coat smearing) is useful for Lab. dx. Of
A. **Malaria**
B. E. histolytica
C. Giardia Lamblia
D. Trypanosomes
E. A and D
41. All of the following chemicals are used to make/prepare/ stool smear for direct examination except
A. Normal saline
B. Eosin
C. Dobell's iodine
D. **10% formalin**
42. Mantoux skin test is used to diagnose
A. **Kala- azar**
B. Toxoplasmosis
C. Hydatid cyst
D. Sleeping sickness
43. The diagnostic stage of Leishmania from culture is _____
A. **Amastigote**
B. Epimastigote
C. Promastigote
D. Trypomastigote
44. Which of the following non- microscopical diagnosis of malaria is based on detection of HRP – 2Ag
A. **ICT**
B. Optimal R
C. Thick
D. Thin
45. When you report the consistency of the stool, formed has the following characteristics.
A. **Can not be punctured with applicator stick.**
B. Stool will flow out of the containers
C. Can be punctured and maintain the shape of containers

- D. None
46. In direct stool examination, the following should be reported macroscopically except
- A. Color
B. Consistency
C. Presence of blood, mucus
D. **Trophozoite of E.histolytica**
E. Presence of adult worm
47. Suppose you have counted 30 parasites against 100 WBC on blood film examination, what will be the density of parasite per microliter of blood if the total WBC count is 5000/cmm?
- A. **150 parasites / μ l**
B. 15000 parasite / μ l
C. 1500 parasite / μ l
D. Difficult / μ l
48. Concentration technique are not routinely used for stool examination because, they _____
- A. Saves time
B. Are more accurate
C. **Are expensive and time wasting**
D. B and C could be answer
49. The adult worm of S. Mansoni and S. hematobium lives in _____ respectively
- A. Liver and lung vein wall
B. **Intestine and bladder vein wall**
C. Lung and liver vein wall
D. Bladder and intestine vein wall
50. The folded in ward groove is the body parts of (gynaecophonic canal) schistosomes.
- A. Female
B. **Male**
C. For both male and female
51. One of the following is less effective on schistosoma diagnosis from stool.
- A. Formal ether concentration technique
B. **Zinc flotation**
C. Formal detergent technique
D. None

2. INTRODUCTION TO MED LAB

- ___52. Which one of the following is true about handling of medical waste?
- A. It Should be placed in a leak proof containers and sharp safe container
B. It can be disposed any where
C. It Should be handled only by those who trained
D. **Both A & C**
- ___53. Accidents in the laboratory may occur due
- A. use of defective equipment
B. Lack of skill or knowledge
C. Carelessness and neglect
D. **All**
- ___54. One of the following is not way of preventing Lab-acquired infections
- A. Handling specimens with care
B. **mouth-pipetting**
C. Immunized against highly infections pathogens

- A. 10^3 ml B. **10^7 μ l** C. 10^3 dl D. B&C

___65. Which one of the following is used to keep records of laboratory test results

- A. carbon copies of request B. work sheet
C. registration book D. All

___66. Which one of the following is not way to reduce hazards of corrosive chemicals.

- A. storing at low level C. pouring at blow eye level
B. avoiding mouth pipetting D. None

___67. Which one of the following is the content of first aid box

- A. Absorbent cotton wool B. Fire extinguisher
C. Adhesive tape D. roll bandages

___68. The immediate emergency aid for burn accident in the laboratory is

- A. seeking for medical attention C. Covering with dressing
B. Washing with or soaking in cold water D. Neutralizing with suitable chemicals

___69. Which one the following is correct sterilization time by dry air oven

- A. 3 hrs at 140°C B. 1 hr at 160°C
C. 30 min at 180°C D. All are correct

___70. The process of reducing virulence (the ability to cause disease) of microorganism using chemicals is

- A. Sterilization B. Disinfection C. Decontamination D. Boiling

___71. if 1ml of serum is diluted with 4ml of saline, and then dilution will be

- A. 1:4 B. 1:5 C. 1:10 D. None

3. Clinical Chemistry section

___72. Determinations of serum uric acid level are most helpful in the diagnosis of

- A. Diabetic B. **Gout** C. Coma D. Cardiac Problem E. All

_____ 73. Which of the following test is more specific for the evaluation of renal diseases?

- A. Urea determination B. Uric Acid C. **Creatinine** D. 24hr urine
E. All

_____74.Which of the following may be classified as being a function of the liver?

- drugs
- A. Detoxification of
B.Excretion of bile acids
- C. Metabolism of glucose
D.Synthesis of proteins
E.**All of the above**

_____75.Which of the following may be associated with **bilirubin metabolism**?

- A. Formed from breakdown of hemoglobin
B. Transported through albumin to the liver
C. Conjugated with glucuronic acid
D. A and B
E. All

_____ 76. The product formed from the reduction of bilirubin in the small intestine is _____

- A. Bile B. Biliverdin C. Porphyrin **D. Urobilinogen** E. None

_____ 77. Which of the following is false about direct bilirubin?

- A.Soluble in water B.Conjugated with glucouronic Acid
C. Can not be excreted in the urine D.A and B E. All

_____78. Calculate a creatine clearance based on the following information urine concentration 120mg/dc plasma concentration 1.5mg.dl urine volume for 24hr 1520ml body surface 1.60m²

- A. 78ml/min B. 82ml/min C. 84ml/min D. 91ml/min
E. None

_____ 19. Lipids are transported in the body by

- A. Albumin B. Amino acid C. Gamma globulins **D. Protein** E. None

_____ 80. Un conjugated bilirubin is

- A. Entirely derived from breakdown of hemoglobin
B. rendered more water soluble by binding to albumin
C. reformed in the intestine by bacterial action
D. Undergoes an enterohepatic circulation
E. B and C

- _____ 81. Increased plasma unconjugated bilirubin occur in the following except
- A. Hemolytic anemia
 - B. Pernicious anemia
 - C. Gilbert's syndrome**
 - D. Dubin Johnson syndrome
 - E. Hepatocellular jaundice
 - F. All of the above
- _____ 82. Lipoproteins have the following properties
- A. Chylomicrons are the largest of the lipoproteins
 - B. HDL is the smallest of the lipoproteins
 - C. Chylomicrons and VLDL are the main carriers of cholesterol
 - D. LDL and HDL are the main carrier of triglycerides
 - E. A and B only**
- _____ 83. The lipoprotein class associated with removal of cholesterol from the body is
- A. Chylomicron
 - B. VLDL
 - C. LDL
 - D. HDL**
 - E. A and C
- _____ 84. Laboratory tests that aid in predicting the risk of coronary heart disease include all of the following except
- A. Fatty acid
 - B. HDL and cholesterol**
 - C. Total cholesterol
 - D. Triglyceride
 - E. None
- _____ 85. Bile is produced in the liver and released to the intestine through bile ducts but if bile duct is obstructed the person developed
- A. Jaundice due to unconjugated bilirubin increase
 - B. Jaundice due to conjugated bilirubin increase
 - C. Jaundice due to indirect bilirubin increase
 - D. Jaundice due to conjugated bilirubin decrease
 - E. A and C
- _____ 86. The major NPN component is
- A. urea**
 - B. Creatine
 - C. Creatinine
 - D. Uric acid
 - E. None

- _____ 87. A test that expresses the relation ship between the amounts of a substance excreted in the urine per minute and its concentration in the blood is
- A. Tolerance test B. **Clearance test** C. Electrophoresis D. A and B
E. None
- _____ 88. The measured plasma total cholesterol concentration reflects
- A. VLDL concentration B. LDL concentration
C. **HDL concentration** D. Chylomicrons concentration E. All
- _____ 89. Plasma specific enzymes becomes clinically significant when their level in plasma.
- a. **Increase** b. Decrease c. entirely absent d. B and C
e. None
- _____ 90. Enzymatic organic co-factor is called.
- a. Activators b. Co- enzyme c. Inhibitor d. **A and B** e. None
- _____ 91. In zero order enzymes catalyzed reaction.
- a. The velocity is proportional to the substrate concentration
b. The velocity is proportional to both enzyme and substrate concentration
c. The velocity is maximum and constant
d. **It rate of change of velocity is zero**
e. C and De. All
- _____ 92. In measurement of enzyme from biological sample which one is can not be manipulated during the procedure
- a. Incubation period b. Sample volume c. Lag phase
d. Read time e. A and C f. **A, C, and D**
- _____ 93. Bilirubin which can react with diazo reagent only in the presence of ethanol methanol caffeine
- A. Direct bilirubin B. Indirect bilirubin
C. Conjugated bilirubin D. Un conjugated bilirubin
E. **B and D** F. A and C

- _____ 94. In total bilirubin determination which of the following uses caffeine benzoate as reaction accelerator?
- A. Van den Bergh method **B. Jendrassk Groft method**
C. Evelyn Malloy method D. A and C
- _____ 95. Which of the following precaution should be taken when collecting and handling a specimen for bilirubin analysis?
- A. Protect specimen from light B. Avoid hemolysis
C. Freeze specimen immediately **D. A and B** E. All
- _____ 96. The Jaffe reaction which utilizes picric acid is employed for the quantitation of
- A. **Creatinine** B. Inulin C. Urea D. Uric Acid E. None
- _____ 97. In the uric acid ultraviolet procedure the reaction between uric acid and uricase causes
- A. A destruction of uric acid **B. Formation of allantoin**
C. Increased absorbance is directly proportional to uric acid concentration
D. A and B E. All
- _____ 98. In determination of enzyme, substrate depletion can be corrected by
- a. reducing read time b. diluting the reagent
c. diluting the sample d. Increasing lag time
e. **A and C** f. C and D
- _____ 99. Which of the following is false about cuvette?
- A. It can be made from polystyrene, or glass for visible wave length
B. It can be made from quartz for UV range
C. The rectangular cuvette is optically clear with one pair at opposite side
D. In flow cell cuvette the sample changed by moving the cell
E. None
- _____ 100. An instrument for measuring relative light transmittance in which the spectral band width is relatively broad.
- A. Filter photometer B. Spectrophotometer

C. Flame photometer D. A and C

E. All

_____ 101. The visible region of the electromagnetic spectrum lies between

A. 200 and 700 nm B. 340 and 850 nm

C. 400 and 800 nm D. 500 and 900nm

_____ 102. The Lipid component whose measurement would be the most severely affected by analysis of a non fasting specimen is

A. Apolipoprotein B. **Cholesterol** C. Triglycerides

D. Fatty acid E. None

_____ 103. Laboratory tests that aid in predicting the risk of coronary heart disease include all of the following except

A. Fatty acid B. **HDL and cholesterol** C. Total cholesterol

D. Triglyceride E. None

_____ 104. An accelerating agent used in Molloy-Evelyn method for serum bilirubin determination is

A. Caffeine benzoate B. Sulfanilic acid C. Ascorbic acid

D. Methyl alcohol E. All

_____ 105. Which of the following interfere with bilirubin determination by a diazo method

A. Hemoglobin B. Vitamin A C. Carotene D. Biliverdin

B. E. All

_____ 106. Which of the following enzyme mostly assess pancreas disorder?

a. ALT b. GOT c. **ALP** d. Amylase e. None

_____ 107. Which of the following isoenzymes of CPK are consider as a Cardiac marker.

a. CK-BB b. CK-MB c. CK-MM d. LDH e. C and D

_____ 108. If serum GOT is very high with no AQ `Q1Wrmal SGPT.

a. It is suggestive of liver disease

b. It is suggestive of both liver and lung disease

c. It is suggestive of both liver and heart disease

d. It is suggestive of heart disease

e. None

_____109. Which of the following is the correct order AST concentration on tissue.

a. RBC > Lung > Spleen > heart

b. Heart < Spleen < Lung < RBC

c. Heart > Spleen > Lung > RBC

d. A and C

E. None

_____110. ALP is elevated in the following pathological condition except.

a. Hepatobiliary disease

b. Paget's disease

c. Pregnancy

d. Hyper-parathyroidism

e. All

_____111. Which of the following are considered primary tissue source of alkaline phosphatase

a. Liver, bone, kidney

B. Liver, heart, kidney

b. Kidney, pancreas, heart

C. Prostate, liver, bone

D. None

_____112. In which tissue is alanine aminotransferase found in the greatest concentration

a. heart

B. liver

C. lung

D. skeletal muscle

E. none

_____113. Following a myocardial infarction the enzyme whose serum activity generally remains with a normal level is

a. alanine aminotransferase

B. aspartate aminotransferase

C. Creatine Kinase

D. Lactate dehydrogenase

E. None

_____114. In adult, a normal serum gamma-glutamyltransferase level with an elevated serum alkaline phosphatase level may be suggestive of

A. bone disease

B. heart disease

C. liver disease

D. skeletal disease

E. none

_____115. Which of the following is used to preserve glucose from bacteria in clinical chemistry determination of glucose?

A. NaFB. Benzoic acid

C. Ammonium oxalate

D. Potassium oxalate

E. None

_____116. Which of the following false about electrolytes

- a. Na(sodium) a maintain osmotic pressure out side the cell
 - b. Increased Na(sodium)concentration caused by sever dehydration
 - c. Potassium is the main intracellular
 - d. All
 - E. none
- _____117. An enzyme catalyzes the transfer of aminogroup from the amino acid aspirate to Alpha ketoacid forming glutamate and oxaloactats
- a. GOT
 - B. ALT
 - C. GPT
 - D. ASTE.
 - a&b
 - f. c&d
- _____118. The following enzyme measurements are frequently increased in acute viral hepatitis at the preictricstage
- a. Alanine aminotransferase
 - B. aspartate amiontransferase
 - c. amylase
 - D. creatine kinase
 - e. a&b
- _____19. In determination of cholesterol with oxidation by chemical the use of H_2SO_4 is
- A. Hydrating agent
 - b. Dehydrating agent
 - c. Coloring agent
 - d. All
 - e. None
- _____120. Which of the following is not a method for determination of urea?
- A. Bertholetmethod
 - c. Diacetalmonoxime method
 - B. Neslerization method
 - d. Folin Denis method
 - e. None
- _____121. In the folin-Wu method for blood glucose determination the use of Tungstic acid is
- A. Stability the final color
 - b. Reduce copper ions in solutions
 - B. Protein precipitants
 - d. All
 - e. None
- _____122. Which of the following is not the method employed for glucose determination in body fluids
- A. GOD method
 - B. Hexokinase method
 - B. O-Toluidine
 - D. Alkaline rerriccynanid method
 - E. None

4. Serology section

123. The diagnostic techniques that applied in immunology are
- A. Based on isolating infectious micro organism in a specimen
 - B. Based on identifying infectious micro organism in a specimen
 - C. Base on the fact that antigens and antibodies interact**
 - D. None
124. Immune- serological techniques use for **except**
- A. Detect micro organism are difficult to culture
 - B. Detect specific metabolic products
 - C. Detect specific antibodies and antigens
 - D. None
125. Test provides a direct measure of the initial binding reaction between an antigen and an antibody are

- a. Primary binding tests
- b. Tertiary binding test
- C. Secondary binding tests
- D. B and C

126. Enzyme immune assay are

- A. Antigen or antibody is conjugated with labeled enzyme**
- B. Primary binding tests
- C. The binding event can be either competitive or non competitive
- D. A & B
- E. All

127. Secondary binding tests including are

- A. Reaction invisible
- B. Required an additional label
- C. Observe the effect of binding event
- D. Most of test are specific

128. A latex particles that can be coated with either known antigen or specific antibody is

- a. Polystyrene
- b. Polyvinyl
- C. Charcoal
- D. B and C
- E. A & B

129. Micro titration agglutination test are

- A. More sensitive
- B. **Difficult to perform**
- C. Less economic
- D. Give quicker results
- E. A & D

130. Complement fixation test are

- A. Used to detect either antigen or antibody
- B. Now used for research purpose
- C. Secondary binding test
- D. Consist an indicator system
- E. **All**

131. Factor that affect the quality of serological tests are

- A. Experience of the laboratory personnel
- B. The quality of the kit
- C. The condition of the specimens
- D. Interpretation and reporting of result
- E. **All**

132. The fluid devoid of cell from untreated blood which has been allowed to clot

- A. Plasma
- B. **Serum**
- C. Whole blood
- D. A and C
- E. B and A

133. A process of making weaker solution from stronger solution

- A. Prozone
- B. **Dilution**
- C. Equivalent
- D. Equivalent

134. Treponema pallidum is

- A. Ethiological agent of syphilis
- B. Obligate parasite of humans
- C. It can be cultured invitro
- D. **A and B**

135. Find the wrong statement sign and symptoms of syphilis

- A. Small lesion at the site infection**
- B. Skin rash around palm and sole
- C. Painless ulcer in the mouth area
- D. Wart like lesions in the genital area
- E. **None**

136. RPR test
- A. Serological test for syphilis
 - B. Non- treponemal antigen test
 - C. Non- specific test
 - D. Antigen prepared from beet heart
 - E. **All**
137. RPR test difference from VDR is
- a. Antigen must be dilute before used
 - b. Heating of the patient serum is required
 - c. **Plasma as well as serum can be used**
 - d. Techniques difficult
138. The causative agents of febrile disease are **except**
- A. Salmonella species
 - B. Reckettsial
 - C. Brucella a bortus
 - D. **C- reactive protein**
 - E. None
139. “O” antigen of salmonella
- A. Somatic antigen
 - B. Lipopoly saccharide of the outer membrane
 - C. heat and alcohol labile antigen
 - D. **A & B**
 - E. A & C
140. Widal test are
- A. Serological test for parasite
 - B. Used to diagnose thypoid fever but not paratyphoid fever
 - C. Suspension (kit) contains “o”, “AH” and BH antigen
 - D. **None**
141. Biological false negative reaction in RPR test can occur.
- A. Early primary infection
 - B. Tertiary stages of disease
 - C. **Auto immune disease**
 - D. A and B
142. Well- felix reactions are
- A. Non specific
 - B. False negative reactions are common in sucrob typhus
 - C. False positive reactions may occur in porteus infections
 - D. Principle and procured similar as the widal test
 - E. **All**
143. B. subunit of HCG anti genially
- a. Resembles to leutenizing hormone (LH)
 - b. Resembles to follicle stimulating hormone (FSH)
 - c. Resembles to thyroid stimulating hormone (TSH)
 - d. Does not anti genially resemble to other hormone
 - e. All except D
144. Rheumatoid factors are including **except**
- A. Heterogenous group of antibodies
 - B. Antibodies with specificity for antigen determinants on the FC fragment of IgG antibody
 - C. A second antibody (anti antibody)
 - D. **None**
145. Biological false positive for rheumatoid factors test is
- a. Lumpuserythromatosus
 - b. Hepatitis

- c. Cirrhosis of the liver
d. Typhoid fever
e. All except D
146. Streptolysin "O" is
a. **Alph – hemolytic factor**
b. Produced by S. pneumonia
c. Oxygen and heat stable
d. None
147. ASO (anti- streptolysin) is
A. **Neutralizing antibody produced after infection with s. pyogenes**
B. Antibody produced before infection occur
C. Neutralizes the Alph- hemolytic activity of streptolysin "s"
D. B and C
148. All are markers that used for HBV test **except**
A. HBS Ag
B. HB CAg
C. HBe Ag
D. Anti- HBs AP
E. Anti HBC Ag
F. Anti HBe Ag
G. None
149. **Non- specific** immunity are
A. First and second line protection
B. Natural
C. Innate
D. **All**
150. Physical barrier includes
A. Mucous membrane
B. Skin
C. Fluid flow
D. **All**
E. A & B
151. Normal flora of the body prevents the growth of pathogenic organism by:-
a. Occupying attachment site
b. Competing for essential nutrients
c. Producing harmful substances
d. **All**
e. B and C
152. The specific immune response characterized by
A. Recognition
B. Non- specific
C. **Second line defense**
D. Lymph node
153. All are characteristics of interferon **except**
A. It is a family of glycol protein
B. Produced by viral infected cell
C. Protect neighboring cells
D. Chemical barriers
E. None
154. Inflammatory response are
A. Specific immune response
B. Localizing invading micro organism
C. Prevent the spread of infection
D. **Response to infection or injury**
E. all except A
155. The primary or central lymphoid organs
a. Blood and payers peach
b. Lymph nodes and thymus
c. **Bone marrow and thymus**
d. Lymph nodes spleen
156. All are the following are function of T- cells except
A. Mediation of delayed hyper sensitivity reactions

- B. Mediation of cytolytic reactions regulations of immune response
C. Synthesis of antibody
157. T- cells response for cellular immune B- cells response for
 a. Cytotoxic reaction C. Humoral response
 b. Phagocytosis D. Inflammation reaction
158. Which of the follow wrong statement of thymus
 A. A bilobed organ C. Site of T- cell maturation
 B. Located in the thoracic cavity D. **Secondary lymphoid organ**
159. Spleen performs filtering blood, lymph nodes performs _____
 A. Filtering plasma C. **Filtering lymph**
 B. Filtering serum D. Filtering discharge
160. A substance that induced a specific immune response when introduced in the body
 A. Antigens B. Adjuvants C. **Immunogen** D. Haptens
161. Physical nature of antigen includes
 A. Foreign B. Non degradable C. Stable D. Particulate
 E. **All**
162. Which cells express class I MHC (HLA) molecules
 a. All nucleated cells C. B – cells
 b. Macrophages D. Dendritic cells
163. The first immunoglobulin synthesized by the fetus
 A. IgA B. IgE C. IgG D. None
164. Opsonization and complement activation of antibody molecules are determined by
 A. The fab portion C. **The Fc portion**
 B. The (Fab)₂ portion D. The (FC)₂ portion
165. Which of the following wrong statement of IgG
 A. It can neutralize Ag C. It crosses the placenta
 B. It can activate complement D. **It is found low concentration in blood**
166. Which of the following the correct increasing order of antibodies in blood concentration
 A. IgD- IgE- IgA- IgM- IgG C. IgE- IgD- IgA- IgM- IgG
 B. **IgE- IgD- IgM- IgA- IgG** D. IgD- IgE- IgM- IgA- IgG
167. All are biological function of the Fc region of immunoglobulin **except**
 A. Activating complement C. Neutralization
 B. Opsonization D. Phagocytosis E. Ag binding
168. The basic monomer structure of an Ig molecule contains which of the following
 A. Heavy chain (2) C. Disulfide bone
 B. Light chain (2) D. Hinger region E. all
169. Clq is able to
 A. Bind to Fab region of antibody

- B. Directly active the membrane complex
 - C. Directly activate classical path way of “C” cleave
 - D. C4 to C4a and C4b
 - E. C and D
170. Complement of the membrane attack complex include
- A. C3BBB B. Clqrs C. C4b2b D. C4b2b3bE. None
171. Helper T- cells (Th) are
- A. T. lymphocytes B. CD8* C. Cd4* D. A and C
172. Cytotoxic T- cells (Tc) are
- A. B. lymphocytes B. CD4* C. CD8* D. All
173. Th2 cells are
- A. Recognize AGs presented by macrophage
 - B. Response to wards production of Tc
 - C. Secrete IL-4 D. A and C

Urine section

174. One of the following is not function of kidney
- A. Regulation of water & electrolyte
 - B. Regulation of arterial pressure
 - C. Regulation of body fluid osmolality & electrolyte
 - D. Secretion of hormones
 - E. None**
175. Component of renal system used for storage is
- A. Kidney B. Urethra C. Bladder D. Urether
176. The principal site at the nephron as a mechanism for conserving body water is
- A. Bowman capsule C. Collecting duct
 - B. Loop of henel D. All
177. Main function of capillary wall in the glomerulus are
- A. Filtration, absorption & reabsorption
 - B. Excretion, secretion & reabsorption
 - C. Filtration, reabsorption & secretion
 - D. Only
178. All are normal constitute of urine except
- A. Bile pigment C. Urea
 - B. Uric acid D. Electrolyte
179. The degree to which a substance is removed from the blood by excretion in the urine indicates
- A. Glomerular filtration rate C. Urine concentration
 - B. Renal threshold D. Renal clearance
180. A type of urine specimen best for glucose test is
- A. 1st morning C. Mid stream

- B. Post prandial
 - D. Random specimen
181. One is wrong about 24 hrs urine specimen
 - A. Two 1st morning specimen must be collected
 - B. The patient must be informed to empty his bladder before collection
 - C. All are urine collected must be perceived
 - D. All answers above are wrong.
182. Select the Wright statement about clean catch
 - A. Genital area should be cleaned well
 - B. Mid- stream specimen should be collected in to sterile container
 - C. It is important for bacteriological urine culture
 - D. All
183. To prevent source of errors in urine collection we need to avoid
 - A. Bacteriological or chemically contaminated urine
 - B. Right type or amount of preservative
 - C. In adequate mixing of specimen before examination
 - D. All except B
 - E. All except C
184. Long stand of urine at room temperature can cause
 - A. Break down of ammonia to urea
 - B. Reduction of urobilinogen to urobilin
 - C. Hysis of crystals
 - D. Biliverdin changes to bilirubin
 - E. None
185. Preservative that cause false positive for protein
 - A. Freezing
 - B. Chloroform
 - C. Thymol
 - D. HCL
186. Adv advantage of using boric acid as preservative
 - A. Stabilizes steroids catecholamines
 - B. Preserve chemical & formed elements
 - C. No chemical interference
 - D. Preserve aldosterone level
187. Disadvantage of using formaldehyde as preservative
 - A. Destroy formed element
 - B. Cause false positive for protein
 - C. Precipitate aldehydes
 - D. Interferes with glucose evolution
188. We report- negative, +1, +2, +3, +4 on
 - A. Quantitative tests
 - B. Semi- quantitative tests
 - C. Semi qualitative tests
 - D. Qualitative tests
189. 24 hrs urine specimen is needed for
 - A. Quantitative tests
 - B. Semi- qualitative test
 - C. Screening test
 - D. Qualitative tests
190. Responsible pigment for red color formation in normal urine
 - A. Urochrome
 - B. Uroerythrin
 - C. Urobilin
 - D. Erythrocytes
191. A normal color of urine may be represented by

- A. Smoky
B. Brown
C. Yellow- brown
D. Straw
192. Cabbage like or “fishy” urine odor is due to
A. Tyrosenemia
B. Bacteria
C. Cystinuria
D. Presence of keton body
193. If urine stands for long period
A. Have pungent odor
B. Results conversion of urea to ammonia
C. Have ammonical odor
D. All
E. None
194. PH of urine can be measured by
A. Litmus paper, nitrizin paper & refractometer
B. Litmus paper, urinometer& reagent strip
C. Litmus paper, nitrizin paper & glass electrode
D. Nitrizin paper, urinometer& glass electrode
195. Which is a factor for measuring specific gravity using urinometer
A. Temp
B. Glucose
C. Protein
D. All
196. Clinitest tablet test is non specific test for
A. Protein
B. Glucose
C. Melanin
D. Keton
197. Precipitation of protein & formation of white compact ring using concentrated nitric acid is principle for
A. Robert’s test
B. Lang’s test
C. Benedict test
D. Rothera’s test
198. All are type of protein uria except
A. Accidental proteinuria
B. Postural protenuria
C. Anatomical protein uria
D. Renat protein uria
199. All are tests for bilirubin except
A. Isotest tablet test
B. Schilesinger’s test
C. Harrison’s test
D. Diazotization test
200. Guaiac test occult test are test for
A. Melanin
B. Hoemoglobin
C. RBC
D. Renin
201. All are reasons for false result except
A. If the supernatant is not poured off properly
B. If the sediment is discarded with supernatant
C. Shaking of the sediment for mixis
D. None
202. All except one is formed from non- living material
a. Mucus trade
b. Calcium carbonate
C. Leucien
D. Calcium sulfates
203. In healthy individual Rbc may appear
A. Small and intact
B. Creanated and small
C. Faint yellowsh discs & darker at edge
D. A & B
E. A & C
204. Which of the following is factor for falsly high NO of Rbc
A. Renal stone
B. Cystitis
C. Vaginal bleeding
D. Prostate

205. Rbc's can be reported
a. In average No per high power field
b. In dencity per high power field
c. In a No per LPF
d. In dene per LPF
206. Pus cells are
A. Any type of WBC which are dead
B. Polymorphonuclear cells with occurrence of bacteria cells tougher
C. WBC which are found in clumps
D. All
207. Epithelial cells w/c have long size, rectangular & irregular border
A. Renal B. Pelvis C. Squamous D. Transitional
208. The reason we need to use high power (40x) objective for casts is
A. To identify & report
B. To classify & differentiate
C. To quantify the amount
D. A and C
209. Hyline coasts are transparent cylindrical and
A. Appear short& broader
B. Appear waxy &granolar
C. Have parallel side with slightly round ends
D. Contain fat droplet
210. Cast that normally not seen in health individuals
A. fatty cast B. Hyaline cast C. Granular cast D. None
211. Casts are reported
A. Quantitavely
B. By saying few moderate many casts /LPF
C. By mentioning type of cast
D. All except B
E. All of the above
212. A parasite wuchereriabancrofti is
a. Tissue nematode that invade lymph vessels
b. Fluke that infect venoles of bladder
c. Prolozoa that infect genitor urinary tract
213. If you find egg contains a full- developed miracedium with terminal spine in urine it is
A. T- trichomonas vaginalis
B. **Shistosomamonasoni**
C. Wuchreriabancrofti
D. None

6. Immune hematology

214. If an individual weight is b/n 50 – 60kg he can donate _____ ml of blood
A. 500ml B. 1000ml C. 800mnl D. 400ml
215. To select blood donor we must not consider his/her
A. Blood pressure
B. Pulse rate
C. Weight
D. None
216. If the patient has a malaria disease history we may accepted the blood for the preparation of _____

- A. RBC B. Platelet C. Plasma D. All
217. Which of the following has less stronger Ag
A. ABO ag B. Dag C. Kidd D. All
218. Factors influence the amount of Abs formation are
A. Number of foreign Ags
B. Numbers of exposure to foreign Ag
C. Interval b/n exposure E. All
219. Which one of the following has greatest Dalton
A. Igm B. IgG C. IgA D. IgD
220. To show what Ag is present in a individual red cell is
A. Serum B. Antiser C. Ag D. A & B
221. In ABO blood grouping the Ag in used to group the blood type is
A. Bag B. Dag C. AAg D. A & B E. A & C
222. If the person blood type is AB the antibody represent in the serum is
A. Anti B B. Anti A C. Anti A & Anti B D. No antibody
223. If the person blood type is O the antigen present in the red blood cell is
A. AAg B. BAg C. A & B Ag D. no Ag
224. Arianats of a gen for a particular trait are referred to as
A. Linked gen B. synthetic C. Aileles D. None
225. The importance of screening blood donor's is
A. To prevent hemolytic disease D. All
B. To a shure compatibility E. B and C
C. To select appropriate blood
226. Saline in compatibility means
a. RH incompateblity b. Irreguarlincompateblity
c. ABO incompeteblity d. All
227. A person saved to be universal donor if his/her blood group is
A. O and with D- antigen C. O and with out D- antigen
B. AB and with D- antigen D. AB and with out – D antigen
228. To get a fibrin free supernatant
A. We centrifuge a blood with anticoagulant
B. We centrifuge a clotted blood
C. We centrifuge a blood with out anticoagulant
D. A & B
229. In direct ABO blood grouping we test
A. Serum B. Blood C. RBC antigen D. All
230. The incompatibility of Rh is termed us
A. Saline incompatibility C. Saline in compatibility
B. Irregular antibody incompatibility D. All
231. In Rh blood grouping we use slide test and test tube test, the importance of test tube method is
a. To express (manifest) weak antigens
b. To ashure our blood grouping
c. To check the compatibility

- d. All
232. To prevent fainting (syncope) we follow
- A. Proper screening of donors
 - B. Avoiding over drowing
 - C. Serving fruit juice prior to donation
 - D. Collecting blood in cool room
 - E. All**
233. One of the following can not be source of error in Rh typing
- a. Standardized anti Rh
 - b. Improper blood specimen
 - c. Improper cell suspension
 - d. All
234. Direct anti globlin test is important to _____
- A. Test cord blood
 - B. Demonstrate the presence of auto antibody**
 - C. Sensitization due to transfusion rxn
 - D. All
235. Which of the following can not be a factor in indirect antigloblin test
- a. Ionic concentration
 - b. Using clotted blood
 - c. Affinity constant of the antibody
 - d. None
236. In major cross match we use
- A. Donor's cell with recipient's serum
 - B. Donor's serum with recipient's cell
 - C. A & B
 - D. None
237. If no hemalysis or agglutination in any phase of cross match we say
- A. Compatible
 - B. Incompatible
 - C. A & B
 - D. None
238. The survival of blood cell during storage depends on
- A. Glucose
 - B. PH
 - C. ATP
 - D. All
 - E. None
239. One of the following helps the red cell synthesis new ATP
- A. Adenire
 - B. Dentrose
 - C. Citrate
 - D. Citric acid

7.Hematology section

- _____240. Which one of the following is choice of anticoagulant for ESR and _____ coagulation disorder tests
- A. EDTA
 - B. Heparin
 - C. **Sodium citrate**
 - D. Balanced Oxalate
 - E. _____
- Only A& C are correct
- _____241. The depth between the cover glass and the surface of Modified Fuches-Rosenthal counting chamber is
- A. **0.02mm**
 - B. 0.01mm
 - C. 1mm
 - D. 0.1mm
 - E. 0.2mm

- _____ 243. Mechanical differential counter has the following advantage over the electronic one except.
- A. It is strong
 - B. Easy to operate
 - C. It needs battery electricity
 - D. Has an audible signal after 100 cells have been counted**
- _____ 244. Which one of the following can be used as RBC diluting fluid?
- A. Turk's solution
 - B. Rees-Ecker solution
 - C. Normal saline
 - D. Pilot's solution
 - E. Both A & C
- _____ 245. What would be the total leukocyte count if 126 white cells are counted in the 4W counting area of improved Neubaur counting chamber, provided that the blood is diluted 1 in 100.
- A. $6.3 \times 10^3 / \text{mm}^3$
 - B. $12.6 \times 10^9 / \text{lit}$
 - C. **$31.5 \times 10^3 / \text{mm}^3$**
 - D. $12.6 \times 10^3 / \text{mm}^3$
 - E. $63 \times 10^3 / \text{mm}^3$
- _____ 246. CFU-Meg refers to
- A. Early Monocyte progenitor
 - B. Early Neutrophil Progenitor
 - C. Early Thrombocyte Progenitor
 - D. Mixed granulocyte monocyte progenitor
 - E. Myeloid stem cell
- _____ 247. A type of white cell that is increased in response to heminthic parasitic infection and allergic responses is
- A. **Easinophil** Monocytes
 - B. Basophils
 - C. Nutrophils
 - D. LymphocE.
- _____ 248. Which one of the following is **not** the property of WBC diluting fluids?
- A. Facilitating identification of cells
 - B. Avoiding aggregation of cells
 - C. It keeps morphology of red cells intact
 - D. Maintain structure of cells of white cells
 - E. None of the above
- _____ 9. Which one of the following is a type of adult hemoglobin?
- A. Hemoglobin A
 - B. Hemoglobin A2
 - C. Hemoglobin F
 - D. All of the above
 - E. Only A & B**
- _____ 249. One of the following is not the site of haemopoiesis during embryonic and foetal life
- A. spleen
 - B. Bone marrow
 - C. Yolk sac
 - D. Liver

- E. None of the above
- _____ 250. Myeloid stem cell produces the following cells except
- A. Platelets Lymphocyte B. Monocytes C. Erythrocytes D. Basophils
- _____ 251. Immediate successor cell of pronormoblast in the developmental stage of Erythrocytes is
- A. CFU-E B. Early Normoblast
C. Reticulocyte D. Late Normoblast E. Mature RBC
- _____ 252. Which one of the following is not true about normal breakdown of redcells
- A. The aged RBCs are removed from circulation mainly in spleen
B. The globin part is returned to amino acid pool
C. The iron is excreted in the form of urobiliogen through urine
D. The protoporphyrin is metabolized to billirubin
E. None of the above
- _____ 253. Anemia is said to be sever when the hemoglobin concentration is
- A. above 10g/dl B. **blow 7g/dl** C. b/n 7-10g/dl D. none of the above
- _____ 254. Which one of the following factors is associated with decreased red cellproduction
- A. Lack of essential nutrients B. chronic disease
C. cytotoxic drugs D. **All of the above**
- _____ 256. A Polycytemia that occur due to dehydration or plasma loss is known as
- A. **Apparent polycytemia** C. Secondary true polycytemia
B. Primary true polycytemia D. All of the above
- _____ 257. Red cell disorder that occurred due to abnormality in the synthesis of either alpha or beta chain is referred to as
- A. Sickle cell anemia B. Megaloblastic anemia
C. Thalasemia D. Polycytemia
- _____ 258. Type of anemia that resulted from increased destruction of red cells is known as

- A. Aplastic anemia B. **Haemolytic anemia** C. Pernicious anemia
D. Thalassemia

_____ 259. Which one of the following is the cause of normocytic-normochromic anemia?

- A. iron deficiency B. **Acute blood loss** C. VB12 deficiency D. Liver disease

_____ 260. Which one of the following is characteristics feature of neutrophils in blood film stained with Romanowsky stains?

- A. Deep bluish lobular nucleus C. Coarse basophilic granules
B. **Fine neutrophilic granule** D. Grayish blue cytoplasm

_____ 261. Important characteristic feature of white cells that has to be observed in differential white cell counting

- A. The size of the cell C. Shape of their nucleus
B. Types of granules in cytoplasm D. **All of the above**

_____ 262. Monocytes are identified by their

- A. Large size C. Kidney shaped nucleus
B. Blue granules in the cytoplasm D. **Both A&C**

_____ 263. Hypersegmented neutrophils

- A. **have 5 or more distinct lobe** C. have larger size than normal
B. seen in megaloblastic anemia D. All of the above

_____ 264. If an average of 12 sickle cells are detected in an oil immersion fields the correct grading will be

- A. Moderate B. +++ C. Are remnants of nuclear material
D. A&B E. B&C B. Iron containing inclusion
C. Precipitates of ribosomal RNA
D. Nucleated red cells

_____ 265. Siderocytes are

_____ 266. Which one of the following is true about spherocytes

- A. Seen in megaloblastic anemia
B. They appears darker than normal cells
C. They show increased osmotic fragility test

- _____ D. Both B&C
- _____ 267. Macrocytes
- A. Are red cells that have >8um in diameter**
- B. Red cells that have >102fl
- C. are seen in VB12 and folic acid deficiency
- D. All of the above
- _____ 268. Confusing precipitates in reticulocyte counting is usually _____ comes from
- A. Inadequate washing
- B. Not filtering the stain
- C. Drying of the stain on blood film
- D. All of the above
- _____ 269. Which one of the following is not correct about PCV?
- A. it indicates ratio of red cell volume to that of whole blood
- B. It is used to detect anemia
- C. It is used in diagnosis of polycythemia
- D. None of the above
- _____ 270. Which one of the following is not correct about hematocrit reading by _____ hand held reader?
- A. The base of the red cell column must align on the 0 line
- B. The reading is taken from the point just above the buffy coat layer
- C. The top of the plasma must align on the 100 line
- D. None of the above
- _____ 271. Which one of the following is source of error in hematocrit _____ determination
- A. Using appropriate type of capillary tube
- B. taking sample from clotted blood**
- C. centrifuging at an average of 12,000RPM for 3-5min
- D. None of the above
- _____ 272. which one of the following is correct about plasma color in PCV _____ determination
- A. Normal plasma looks colorless
- B. Vivid yellow indicates increased bilirubin
- C. In iron deficiency the plasma appears straw colored
- D. All of the above
- _____ 273. Anticoagulant of choice for ESR determination is
- A. EDTA
- B. Balanced oxalate

C. Sodium citrate

D. Heparin

_____274.Which one of the following is the correct proportion of anticoagulant 2ml of blood sample for ESR determination

A. 1ml

B. 2ml

C. **0.5ml** D. 0.25ml

D. 0.25ml

_____275. which one of the following is source of error in ESR determination

A. Not positioning the pipette vertically

B. Measuring when the patient is dehydrated

C. Exposing the pipette to direct sunlight

D. All of the above

_____276.Which one of the following is not correct about reaction in hemoglobincyanide method

A. Potassium ferricyanide lyse red cells

B. Hemoglobin is oxidized to mehemoglobin by potassium cyanide

C. methemoglobin is converted to hemoglobincyanide by potassium cyanide

D. None of the above

_____277.Which one of the following is correct about source of error in photometric measurement of hemoglobin

A. Inaccurate measurement of blood sample and reagent

B. Inappropriate mixing of blood sample

C. Using deteriorated reagent

D. All of the above

278. Which one of the following is not the component of Drapkin's solution

A. Potassium ferric cyanide

C. potassium cyanide

B. Potassium desoxycholate

D. Both A&C

_____280. Which one of the following is not true about hemocue hemoglobin determination method?

A. It requires dilution and measuring of blood sample

B. It is accurate and precise

C. Fast method and simple to operate

D. It reads the concentration of hemoglobin at two wave length

281. An L.E cell is

A. The damaged nucleus of white cells

B. Nutrophils that has ingested the damaged nucleus

C. Antibody producing cells against the nucleus of white cells

D. Anti DNA antibody

E. None of the above

_____282. CBC include the following test except

A. Differential WBC counting

B. PCV

C. ESR

E. None of the above

D. Platelet counting

_____ 283. Which one of the following is disadvantage
automated hematology analyzers

A. Gives more accurate and precise result

B. Abnormal cells in the blood may be identified incorrectly

C. Time saving

D. Both B&D

_____ 43. If you count 60 reticulocytes from the total of 1000 red cell
on stained

preparation, the % reticulocyte would be

A. 12%

B. **6%**

C. 8%

D. 5%

E. None of the above

_____ 284. Which one of the following is source of error in
determination of coagulation disorder tests?

A. Delay in testing plasma

B. Not timing accurately

C. Not pipetting correct volumes of plasma and reagents

D. **All of the above**

_____ 285. Activated partial thromboplastin time can be used
as screening test for the deficiency of the following
plasma coagulation factors except

A. Factor VIII

D. Factor XII

B. Factor IX

E. None of the above

C. Factor VII

_____ 286. Deficiency in one of factors in extrinsic coagulation pathway is
screened by

A. APTT

B. PT

C. TT

D. Both A & C

D. A & B

_____ 287. Pink- reddish colored plasma seen in determination of
PCV indicates

A. Leukocytosis

C. Jaundice

B. Haemolysis

D. Normal plasma color

_____ 288. PCV is

A. Percentage volume of blood occupied by plasma

B. Percentage volume of blood occupied by packed red cells

C. Percentage volume occupied by white cells and platelets

D. Includes all of the above

_____ 289. PCV is used for

A. Screening anemia

B. Calculating MCH

- C. Diagnosis and monitoring of polycythemia
_____ 300 A PCV of 45% is approximately _____g/dl of hemoglobin
A. 10 B. **15** C. 4.5 D. 22.5
- _____ 301. A very thick buffy coat observed in PCV determination indicates
A. Polycythemia B. Luekopenia C. **Luekocytosis** D. Jaundice
- _____ 302. Which one of the following is not useful in determination of PCV using microhematocrit method
A. Microhematocrit centrifuge C. **Wintrobe tube**
B. Capillary tube D. Sealant
- _____ 303. Which one of the following stains is not used for staining of thick blood film?
A. Giemsa stain C. **Wright stain**
B. Field stain D. None of the above
- _____ 304. Thin blood film can be stained without prefixation by
A. **Wright stain** C. leishman stain
B. Field stain D. Both A&B
- _____ 305. Examination of thick blood films is important in
A. Red blood cells morphology investigation
B. **Rapid detection of blood parasite**
C. Differential WBC counts
D. All of the above
- _____ 306. One of the following is not Vitamin K dependent coagulation factor
A. Factor I B. Factor II C. Factor IX D. Factor X
- _____ 307. Decreased platelet number (thrombocytopenia) is caused by
A. Decreased platelet production C. Enlarged spleen
B. Increased consumption of platelets D. **All of the above**
- _____ 308. Which one of the following is intravascular effect in the process of haemostasis?
A. Release of tissue factor from damaged tissue
B. Vasoconstriction
C. Formation of fibrin clot
D. Contraction of tissue surrounding the injured blood vessel
- _____ 309. Darkly stained small spherical body of remnants of nuclear material in the red cells
A. Basophilic stippling B. Howell-Jolly body

C. Cabot rings

D. Malaria parasite

_____310. The following coagulation factors are proteins made in liver except

A. Prothrombin

C. B

B. Fibrinogen

D. Hageman factor

8. Specimen Collection section

_____311. Which one of the following type of urine specimen can be best used for _____ bacteriological examination?

A. clean catch urine specimen

C. post prandial urine

D. Both A&C

B. random urine sample

_____312. Which one of the following is characteristic feature of discharge due to *Candida albicans* infection?

A. A thin grayish-white discharge

B. Unpleasant ammonical odor

C. white odorless discharge with the pH below 5

D. None of the above

____313. Which one of the following is not true about the function of preservative in stool specimen collection?

A. To preserve fecal specimens for teaching purpose

B. To keep the motility of protozoan parasite in the stool

C. Used when the specimen is collected from the field

D. Used when specimens need to be sent to reference laboratory

____314. Which one of the following preservative can be used for preserving amoeba and flagellate in stool specimen?

A. Merthiolate Iodine formaldehyde (MIF)

B. poly vinyl alcohol (PVA)

C. sodium acetate, acetic acid formaldehyde (SAF) D. All

D. A11

_____315. Black or tarry stool specimen indicates

A. consumption of chlorophyll rich vegetables

B. Bleeding from upper GIT

C. Taking barium milk for X- ray examination

D. None of the above

____316. Which one of the following is not part of physical examination of stool specimen that has to be observed before microscopic examination.

A. consistency

B. the presence of adult worms

- C. the presence of protozoan parasites D. segments of Teaniaspp
- ____ 317. Which one of the following will not affect the volume of urine?
- A. The amount of fluid intake C. The state of kidney
B. Climate D. None
- ____ 318. Excretion of large volume of urine for short period of time
- A. Polyuria C. Anuria
B. Diuresis D. None
- ____ 319. the normal color of urine is the result of the following pigment except
- A. Urochrom
B. uroblin
C. uroerythrine
D. Bilirubin
- ____ 320. Proper collection of urine is achieved by
- A. using suitable container
B. collecting the appropriate type and amount
C. Appropriate transportation and preservation.
D. All of the above
- ____ 321. A type of urine specimen which is collected 2 hr after meal is
- A. Second voided specimen C. Random urine
B. Post prandial specimen D. None
- ____ 322. Which one of the following term is not associated with abnormalurine volume?
- A. oliguria C. Hematuria
B. polyuria D. Anuria
- ____ 323. an instrument used in determination of specific gravity of urine
- A. urinometer C. pH meter
B. Refractometer D. A&B
- ____ 324. Which one of the following preservative can be used to preserve urine specimen for cultural technique.
- A. Thymol C. Boric acid
B. Bleach D. Concentrated HCl
- ____ 325. Capillary blood is collected when
- A. Many tests on blood requested C. Plasma or serum is required
B. Small amount of blood is required D. None

____326. Which one of the following is not source of error in preparation of thin blood film?

- A. preparing from not well mixed blood sample
- B. preparing on greasy and fatty slides
- C. using an old and scratched slides
- D. None

____327. A type of blood film used for rapid detection of blood parasite is

- A. thick blood film
- B. thin blood film
- C. Both A&B
- D. None

____18. Which one of the following can be the cause of haematoma?

- A. Accidental pulling out of needle from the vein
- B. Not to release the tourniquet first and apply the pressure immediately to the puncture site
- C. Not selecting the appropriate vein and positioning the needle in the vein well.
- D. All of the above

____329. Sputum specimen is collected and examined mainly for investigation of

- A. Ulcer in mouth and throat
- B. Pulmonary disease
- C. GIT problems
- D. all of the above

____330. which one of the following is not correct about orienting the patient for sputum specimen collection

- A. explaining the patient to collect the sample from deep the lung
- B. telling the patient to brush his teeth and clean his mouth before he sleeps
- C. safety precautions not to spread infectious microorganisms must be taken
- D. None of the above

____331. The main purpose of inoculating the samples in a transport media while dispatching samples is:

- A. to prevent overgrowth of commensal microorganism
- B. to look growth characteristics of the pathogenic microorganism
- C. to ensure the survival of microorganism of our interest
- D. only A&C are correct

____332. Which one of the following is correct about container for sputum specimen collection?

- A. it must be sterile
- B. it must be clean, dry and wide mouthed
- C. it must have tight screw cap
- D. B&C are correct

____333. A yellow green purulent discharge with pH above 5 is a characteristic feature of

- B. Candida albicans infection
- C. syphilis
- C. T. vaginalis infection
- D. chancroid

____334. Which one of the following is not characteristic feature of discharge due to G. vaginalis infection?

- A. A thin grayish-white discharge
- B. Unpleasant ammoniacal odor
- C. A pH less than 5
- D. None of the above

____335. Pus from abscess can be collected for bacteriological examinations by the following method except

- A. By aspiration
- B. At the time of incision and drainage
- C. skin snip
- D. when ruptured naturally

____336. Which one of the following is not true about collecting throat and mouth swab

- A. Examination of mouth and throat and mouth require good light
- B. Tongue depressor must be used to see the infected area clearly
- C. Contamination of the sample with saliva must be prevented
- D. None of the above

____337. Which one of the following is true about eye swab collection?

- A. sterility of material is not important in collecting swab from eye
- B. Natural secretion of eye contains antimicrobial activity, therefore immediate inoculation is important
- C. samples can be sent to referral laboratories without the need of transport media
- D. culture can be inoculated at any time with 24hr after collection

____338. Which one of the following is correct about dispatching the specimens?

- A. All dispatched specimens must be registered.
- B. Specimens must be placed in crack free container and must be sealed
- C. Reports from the referral lab must be registered
- D. All of the above

- ____ 339. Which one of the following is done first in specimen collection?
- A. Giving appropriate type of specimen container
 - B. Orienting the patient how to collect the sample
 - C. Identifying the patient and requested tests
 - D. Labeling the container
- ____ 340. A creamy white patch on oral mucosa and tongue is a characteristic _____ feature of
- A. Pharyngitis
 - B. Oral thrush
 - C. Vincenti's angina
 - D. Tonsillitis
- ____ 341. Which one of the following is true about pus?
- A. it is a thick yellowish fluid found at the site of bacterial infection
 - B. it mainly contain dead white blood cells
 - C. Both A&B are true
 - D. None
- ____ 342. The presence of blood in csf might be due to
- A. Traumatic lumbar puncture
 - B. Both A&B
 - C. Hemorrhage to CNS
 - D. None
- ____ 343. Clots in body fluids are due to
- A. the presence of bilirubin
 - B. The presence of RBCs
 - C. increased concentration of fibrinogen
 - D. All of the above
- ____ 344. Purulent or cloudy appearance of body fluid
- A. indicates the presence of pus cells
 - B. indicates normal appearance
 - C. mostly caused by pyogenic bacteria
 - D. A&C are correct
- ____ 345. Fungal infection of skin, hair, and scalp is
- A. systemic mycosis
 - B. Superficial mycosis
 - C. Cutaneous mycosis
 - D. All of the above
- ____ 346. Which one of the following material is not necessary for skin snip collection _____ and preparation?
- A. Fine needle
 - B. KOH
 - C. Surgical blade
 - D. All of the above are necessary
- ____ 347. The main purpose of incubating the skin snip for at least 1hr is
- A. to digest the keratin surrounding the skin
 - B. To allow the microfilaria emerges from the skin.
 - C. Both A&B

D. None

- ____ 348. Which one of the following is not true about sterilization by autoclaving?
- A. It is a most efficient method of sterilization
 - B. All forms of microorganism will be killed including spore forming microbes
 - C. Can be used to sterilize liquids
 - D. None
- ____ 349. The disadvantage of autoclaving is
- A. It utilize toxic chemicals
 - B. All spore forming bacteria will not be killed
 - C. It takes longer time
 - D. Heat sensitive materials can not be sterilized
- ____ 350. Which one of the following materials is best sterilized through flaming ?
- A. mouth of culture media and specimen container
 - B. wire loop and strait wire
 - C. tip of metal forceps
 - D. All of the above

Specimen Collection

351. Which of the following are the characteristics of first morning urine specimen
- A. more concentrated
 - B. Important for nitrate determination
 - C. Important for protein determination
 - D. All
352. Important for bacteriological examination which type of urine specimen is important
- A. A. mid- stream
 - B. Post prandial
 - C. Clean catch
 - D. A & B
 - E. A & C
353. One of the following abnormal urine specimen is mismatched
- A. Colorless – diabetes
 - B. Chyluria- chronic wuchereria bancrofti
 - C. Clear red- presence of intact RBC
 - D. Yellow dark – low volume of blood
354. The container for urine collection can be
- a. Clean , dry, leak proof, plastic wide mouthed
 - b. Clean dry leak proof glass wide mouthed
 - c. Steril dry leak proof plastic wide mouthed
 - d. Steril dry leak proof glass wide mouthed
 - e. C & D
 - f. All
355. By standing urine for a long period of time without preservative may cause
- A. Break down of urea to ammonia
 - B. Rising in pH of urine
 - C. The urine will be alkaline
 - D. B & C
 - E. All
356. The reason we collect blood with care is
- A. To ensure test results
 - B. To avoid contamination
 - C. To prevent infection
 - D. B & C

- E. All
357. Which one of the following has no importance in capillary blood collection
 A. Pricking needle C. Lancet
 B. Tourniquet E. None
358. Abnormally large amount of urine volume is known as
 A. Polyuria B. Aliquuria C. diuresis D. A & B
359. The specimen for dermatophytosis /ring worm or tinea/ can be collected from
 A. Skin B. Nail C. Foot D. All
360. The sample for detecting micro bacterium tuberculosis is
 A. Blood B. Urine C. Sputum D. Skin
361. Blood from femoral and jugular vein's are collected by a physician b/c
 A. They locate in high risk place
 B. They may cause serious damage
 C. They can be collected easily D. All but not C
362. When collecting venous blood we can avoid hematoma by
 A. Ensuring an appropriate vein selected
 B. Releasing the tourniquet before removing the needle
 C. Massaging the site of puncture
 D. A & B E. A & C
363. A specimen obtained from membrane sac of the heart is
 A. Synovial B. CSF C. Pericardial D. Pleural
364. A specimen from lung space
 A. Synovial B. CSF C. Pericardial D. Pleural
365. CSF is obtained from
 A. Abdominal cavity C. Spinal cord
 B. Joints D. None
366. Ascitic (peritoneal) specimen is collected from
 A. Abdominal cavity C. Spinal cord
 B. Joints D. None
367. Which one of the following cannot be source offering in urine collection
 A. Wrong volume of preservative
 B. Including two morning sample in 24 hr collection
 C. Partial loss in 24 hr urine collection
 D. None E. All
368. We select or use capillary blood when
 A. The patient is infant
 B. We need small amount of blood
 C. We need more test's to do D. A & B
369. Preservation of stool specimen is required when
 A. For dispatching purpose C. for teaching purpose
 B. If it collect in the filled D. All
370. Which one of the following preservative is used for stool preserving purpose
 A. Formalin B. Polyvinyl C. alcohol D. Bayers solution E. All
371. A type of blood specimen obtained after centrifugation without an addition of anticoagulant is _____
 A. Plasma B. Serum C. Plasma & serum D. None

372. The Best anticoagulant in hematology is
A. **EDTA** B. Sodium citrate C. Heparin D. Double oxalate
373. The advantage of thin blood film over thick blood film is
A. Slides are easier to label
B. Slides are easier for morphological identification
C. Slides are easier for rapid detection
D. All but not C
374. The good quality of thin blood film include
A. Gradual change from thick to thin
B. It should cover $\frac{3}{4}$ of the slide
C. It is free from rings, holes or waves
D. It should allow reading through it **E. All**
375. A type of urine specimen obtain after 2 hours of meal is
A. Random urine B. **Post prandial** C. Second vaide D. All
376. Which of the following can not be a chemical preservative for urine sample
A. Chloroform B. HCL C. Boric acid D. None
377. One of the following does not include in measurement of urine specific gravity
A. Urine specific gravity
B. Referacto meter
C. Reagent strip
D. Urinometer
E. None

9. Bacteriology Exam

378. Leprosy is primarily a disease of _____
 A. Blood B. **Nerve** C. Skin D. All E. none
379. How do you report, if you see blue purple spherical bacteria in bunch of grapes?
 A. Gram positive cocci in chains C. Gram negative cocci in clusters
 B. **Gram positive cocci in clusters** D. B and C
380. DPT vaccine is given for prevention of the following bacteria diseases **except**
 A. Diptheriapertusisi C. Haemophilus influenza
 B. Bordetella pretussis D. **Clostridium tetani** E. None
381. The bacteria that can be transmitted from mother to child when the child pass through the birth canal.
 A. Neisseria meningitides C. haemophilse influenza
 B. Neisseria gonorrhea D. **A and B** E. None
382. The bacteria which cause wool sorter's diseases
 A. Bacillus B. Clostridium C. Corynebacterium D. A & B E. None
383. Which group of organisms needs X and V growth factor
 A. **Shigella** B. Mycobacterium C. Salmonella E. None
384. One of the following bacteria is carboaerophilic
 A. Salmonella B. Mycobacterium C. Haemohilus D. Escherichia E. All
385. One of the following bacteria disease is transmted by aerosoi
 A. Gonorrhea B. Sigellosis C. Meningitis D. Typhoid fever E. None
386. One of the following bacteria is a gram negative intracellular diplococcic
 A. Proteur vulgaris C. **Neisseria meningitides**
 B. Salmonella typhi D. Mycobacterium tuberculosis E. None
387. During menignocccocal meningitis, there will be
 A. Fever B. Headache C. Neck stiffness D. **All** E. Band C only
388. When an appropriate medium is inoculated with bacteria the cell will grow and divide at a characteristics rate, proceeding this period of cell division is the:
 A. Exponential growth phase C. Stationary phase
 B. **Logarithmic phase** D. Lag phase A & C
389. Which one is the correct order in the gram- stain?
 A. Crystal violet, iodine, safranine, alcohol
 B. **Crystal violet, iodine, alcohol, safranine**

- C. Safranine, iodine alcohol crystal violet
 D. Crystal violet alcohol iodine safranine
 E. None of the above
390. Some genera or species of bacteria have the potential of producing endospores in order to enable them to:
 A. Reproduce and produce their replica
 B. Bring about mutation
 C. Survive under adverse environmental condition
 D. Spread aggressively E. **All**
391. The biochemical test mainly used to differentiate *S. aureus* from *S. epidermidis* and *S. saprophyticus* is
 A. Catalase B. **Coagulase** C. Oxidase D. H₂S predictor E. A & B
392. A gram positive spore forming aerobic rod shaped bacteria is
 A. **Bacillus species** C. Klebsiella species
 B. Corynebacterium species D. Clostridium species E. A and D
393. Meningitis can be prevented by
 A. Vaccination C. Using condom
 B. Prophylaxis D. Can not be prevented E. A & B
394. Select gram negative bacteria
 A. Neisseria B. Haemophilus C. Bordetella D. Escherichia E. **All**
395. Which one of the following bacteria has kidney shaped morphology with gram negative reaction?
 A. Neisseria B. Escherichia C. Staphylococcus D. A & B E. **None**
396. Which one of the following is fastidious
 A. Neisseria B. Escherichia C. Staphylococcus D. A & B E. B & C
397. One of the following is a sexually transmitted disease
 A. B B. Meningitis C. Typhoid fever D. Typhus E. None
398. One of the following organisms is characterized by its comma or curved shape
 A. Salmonella B. **Vibrio** C. Shigella D. Proteus E. None
399. Select an acid fast organism
 A. Vibrio B. campylobacter C. Helicobacter D. **Mycobacterium** E. all
400. One of the following diseases is not vaccine preventable
 A. Tuberculosis B. meningococcal meningitis C. Whooping cough D. leprosy E. All
 are vaccine preventable
401. Which group of organisms are obligate intracellular pathogens
 A. Salmonella B. Shigella C. Proteus D. Escherichia E. None

402. Which of the following bacteria is gram positive diplococcic?
 A. *Nisseria gonorrhea* C. *P. vulgaris*
 B. *S. epidemidis* D. *Penumococcus* E. None of the above
403. Leprosy is transmitted by
 A. Sexual intercourse B. Heredity C. **Direct close contact** D. Transplacentally E.
 None
404. One of the following organism has a spiral shape
 A. *Mycobacteira* B. *Helicobacter* C. *Borellia* D. *Shigella* E. None
405. An obligate intracellular gram negative coccobacilli which can not grow in artificial medium is
 A. *Mycobacterium* B. *Campylobacter* C. ***Rickettsiae*** D. *Neissera* E. All
406. Which one is gram negative coccobacilli that can cause acute gynogenic meningitis
 A. *Salmonella typhi* C. *Halmophilus influenza*
 B. *Bordetella pertusis* D. *Mycobacterium tuberculosis*
 E. *Neisseria meningitides*
407. One of the following sexual transmitted disease is characterized by tender genital ulcer
 A. Gonorrhea B. *Trichomoniasis* C. Chancroid D. Syphilis E. None
408. One of the following is not a virulent factor of *bordetella*
 A. Pili B. Haemagglutinin C. Toxin D. Cytotoxin E. None
409. One of the following is not gram negative rod
 A. *Escherichia* B. *Klesiella* C. *Enterobacter* D. *Citrobacter* E. None
410. One of the following antigen is a flagellar antigen
 A. H- antigen B. K- antigen C. O- antigen D. None
411. One of the following is a motile organism gram negative organism
 A. *Escherichia* B. *Proteus* C. *Salmonella* D. All E. B & C
412. The most common cause of urinary tract infection is
 A. *Salmonella typhi* C. *Shigellasonni*
 B. *Escherichia coli* D. *Proteus mirabilis* E. None
413. False gram negative result is reported because of the following **except**
 A. Damage of cell wall of the bacteria
 B. Preparation of too thick smear
 C. **Over decolorization of the smear** E. None
414. The best method of preservation and storage of bacteria is

- A. Chemostat
 B. Lyophilization
 C. Deep freezing
 D. Serial cultivation
415. Select correctly matched in gram staining
- A. Safranin – counter stain
 B. Iodine mordant
 C. Alcohol decolorizer
 D. Crystal violet – counter stain
 E. All
416. Which of the following is incorrect about bacteriological smear/
- a. Fixing is done prior to drying of smears
 b. Fixing is important in preserving the micro- organisms
 c. Fixing prevents smear being washed off
 D. None
417. Specimen to be rejected includes

- A. Salivary sample
- B. Specimen collect in wrong containers
- C. Contaminated sample
- D. Insufficient specimen
- E. **All**
- F. None