

	Tanta University- Faculty of Pharmacy			
	Department of Clinical Pharmacy			
	Examination For 4th Year Students			
	Course Title:		Course Code:	
	Selective Clinical Pharmacy (CILD)		54138	
Exam. Date 23/1/2020	Term: First	Total Marks 210	Total Page: 11	Time: 2 hour

THERE IS ONLY ONE SINGLE BEST ANSWER

PART- I: Prof. Osama Ibrahim(45 questions = 90 points)

1. Criteria for evaluating novel biomarkers include all of the following EXCEPT:
 - a. Ease of measurement.
 - b. Addition of information.
 - c. Effect on management
 - d. All of the above
 - e. None of the above
2. BNP is released during hemodynamic stress when ventricles are dilated, hypertrophic, or subject to increased wall tension. is recommended in current guidelines in patients with heart failure.
 - a. True
 - b- False
3. TNF- α and its receptors (type 1 and 2) are involved in the pathogenesis of / or produced in response to all of the following EXCEPT:
 - a. Inflammation
 - b. Infection
 - c. Coronary artery disease
 - d. Heart failure
4. Using specific and cost-effective novel cardiac biomarkers in primary care may provide a potential to reduce the numbers of patients requiring echocardiography and prediction of mortality.
 - a. True
 - b- False
5. Soluble ST2 was found to be the most prominent predictor in providing an independent and additive prognostic information of mortality but it is not cost-effective.
 - a. True
 - b- False
6. According to BMI, Obesity is defined as -----:
 - a. 25-29.5
 - b. < 18
 - c. >30
 - d. 18.5-24.9
7. Similarly, Waist obesity in males is defined as waist circumference of:
 - a. > 102cm (>40 inches)
 - b. > 88cm (>35 inches)
8. Serum is the liquid that remains after the fibrin clot is removed from plasma.
 - a. True
 - b- False
9. Electrolytes maintenance requirements of potassium per 24 hours
 - a. 0.1-0.2 mEq/kg
 - b. 3 mEq/100 ml H₂O requirement
 - c. 2 mEq/100 ml H₂O requirement

10. In all reported laboratory values regarding enzymology, there is no lower limit, but rather we use only the upper limit.
- True
 - False
11. Which of the following is **NOT** a rationale for ordering laboratory tests?
- To differentiate between a pathological and physiological state e.g. organs function tests (Screening)
 - If the result of a lab. test will affect decision on the therapeutic management of the patient e.g. C/S order and drug blood level. (Diagnosis)
 - To assess the presence of adverse drug effects as well patient's response to pharmacotherapy (Safety & follow-up).
 - None of the above
12. A Tumor Markers are biomarkers used to identify the presence of some cancers and to assess patient response to drug and nondrug cancer treatments.
- True
 - False
13. A 24-hour urine sample must be determined for:
- Patients with unstable renal function
 - Patients with muscle disorder or paralytic patient
 - Malnourished patient or burn patient
 - All of the above
 - None of the above
14. In Hypovolemic shock management, an I.V. 0.9% NS is better than D5W
- True
 - False
15. In severe vomiting, one mostly likely to lose:
- Potassium
 - Magnesium
 - Calcium
 - Bicarbonate
16. An ECG finding of a Peaked T waves, Depressed ST segment, Disappearance of P wave Widened QRS Complex indicates hyperkalemia.
- True
 - False
17. A clinically significant hyponatremia is defined as:
- Serum level < 160 mEq/liter
 - Serum level > 120 mEq/liter
 - Serum level > 135 mEq/liter
 - Serum level < 120 mEq/liter
18. A patient will have Dilutional hyponatremia if he has the following disorder:
- Adrenal insufficiency
 - Vomiting or diarrhea
 - Cirrhosis
 - Hyperlipidemia
19. Alkaline Phosphatase Level in children the level is twice the adult level
- True
 - False
20. Treatment of dilutional hyponatremia is achieved by giving:
- Correct water deficit
 - Give NaHCO₃: 50 mmol over 2-3 min
 - Give sodium chloride
 - Sodium & water restriction
21. A clinically significant hypokalemia is defined as:
- Serum level < 6 mEq/liter
 - Serum level > 5 mEq/liter
 - Serum level > 3 mEq/liter
 - Serum level < 3.5 mEq/liter

22. Lila is a 22 YO female admitted to Tanta University Hospital with an elevated level of Acid Phosphatase enzyme. The possible diagnosis is:
- a- Metastatic carcinoma of the prostate.
 - b- Benign prostatic hypertrophy
 - c- Prostatitis
 - d- RBCs hemolysis
23. Alkaline Phosphatase is usually elevated in:
- a- Liver
 - b- Intestinal mucosa
 - c- Kidney tubules and bone
 - d- All of the above
 - e- None of the above
24. In contrast, Alanine Transaminase (ALT) is less SPECIFIC for liver disease than AST.
- a- True
 - b- False
25. Creatinine Phosphokinase (CK) isoenzyme which goes up in AMI is:
- a- CK- BP
 - b- CK - MM
 - c- CK - MB
26. The first enzyme to go up in A.M.I is:
- a- CK
 - b- AST
 - c- HDL
 - d- LDH
27. Lactic Dehydrogenase (LDH) isoenzyme which goes up in AMI is:
- a- LDH5
 - b- LDH4
 - c- LDH2
 - d- LDH1
28. LDH- isoenzymes midzone elevation indicates:
- a- Lymphoma or Leukemia
 - b- Shock
 - c- A.M.I
29. DVT are responsible of a substantial morbidity and mortality because 15-20% of it embolize to the lung.
- a- True
 - b- False
30. Conditions associated with DVT includes all EXCEPT:
- a- Immobilization or stasis
 - b- Trauma to lower limbs
 - c- Hypertension
 - d- Carcinomas.
 - e- Pregnancy and contraceptive pills
31. Indication of anticoagulation include all of the following EXCEPT:
- a- Pulmonary embolism
 - b- Cerebral hemorrhage
 - c- Deep venous thrombosis
 - d- Heart valve prostheses
32. Information for patients on warfarin include all of the following EXCEPT:
- a. Avoid bumps & falls
 - b. Need for strict drug compliance
 - c. The sites and signs of bleeding
 - d. No major dietary restrictions / abrupt changes in dietary habits
 - e. Frequent aPTT testing

33. Therapeutic PT value = 1.3 - 1.5-time control
a- True b- False
34. International normalized ratio (INR) is a mathematic correction to balance a specific patient's values as a result of different thromboplastin reagents.
a- True b- False
35. The target INR in patient with recurrent remobilization or prosthetic valve is INR of 2.5-3.5 seconds
a- True b- False
36. APTT test is used to monitor Heparin Therapy
a- True b- False
37. When using heparin for anticoagulation in patient with DVT, one should shoot for an APTT level of 1.3-1.5 times the control
a- True b- False
38. Single Small dose 80-100 mg/d of Aspirin will inhibit the platelets aggregation for 4-7 days. It decreased the incidence of AMI in patients with unstable angina.
a- True b- False
39. Clopedrogril (plavix[®]) irreversibly inhibits ADP receptors on platelets. For initial dosing, one must give a LD = 300 mg and a MD= 75 mg TID
a- True b- False
40. To correct respiratory alkalosis, the patient should:
a. Resive bronchodilator
b. Resive Na HCO₃
c. Spontaneously corrected
d. Rebreath CO₂ in paper bag over the mouth and the nose:
41. In case of metabolic acidosis, the compensatory mechanism is through:
a. Shyne-stock respiration
b. Give HCL
c. Kussmaul breathing
d. Give Na HCO₃
42. According to the etiology of respiratory acidosis, one could use which of the following:
a. Bronchodilators
b. Antibiotics or respiratory support
c. HCO₃ only if pH < 7.1
d. All of the above
e. None of the above
43. In case of metabolic acidosis & a pH of < 7.1, one should use:
a. Do nothing, lung will compensate
b. HCO₃ dose = (24 - measured serum HCO₃-) x IBW x 0.5
c. Give half the calculated HCO₃ dose in answer (b) above
d. Do nothing, kidney will compensate
44. In case of metabolic acidosis acute state with clinical symptoms, the acid-base curve will go:
a. Up & left
b. Down & right
c. Up & right
d. Down & left
45. A double or triple acid-base disorders can coexist, but we cannot have simultaneous _____ acidosis and alkalosis at the same time.
a. Respiratory
b. Metabolic

End of Part I..... Continue Part II: Next page

Part II Prof. Dr Sahar M. El-Haggar 60 questions = 120 points:

46. Anisocytosis and poikilocytosis are seen with:

- A. Iron deficiency
- B. Megaloblastic anemia
- C. Periods of increased erythrocyte production and red cell damage
- D. All the above
- E. Both A and C

47..... can be calculated by dividing the hematocrit by the RBC count:

- A. Mean corpuscular volume
- B. Mean corpuscular hemoglobin
- C. Mean corpuscular hemoglobin concentration

48. Mean corpuscular hemoglobin:

- A. Can be falsely increased in patients with hyperlipidemia
- B. Can be truly increased in the presence of folate deficiency
- C. Is decreased in iron deficiency
- D. All the above
- E. Both A and C

49. Red blood cell distribution width (RDW):

- A. It is an indication of anisocytosis
- B. The larger the width percent, the greater the variation in the shape of red cells
- C. The RDW increases in early iron deficiency anemia
- D. All the above
- E. Both A and C

50. The serum iron level of many patients with Iron deficiency anemia remains within the lower limits of normal, as it takes a considerable amount of time to deplete iron stores, giving a false-positive result. Consequently, it is best to interpret serum iron level in conjunction with TIBC:

- A. True
- B. False

51. Patients with infection, malignancy, inflammation or liver disease have a decreased transferrin, so decreased TIBC and a decreased serum iron level which is consistent with the diagnosis of anemia of chronic disease:

- A. True
- B. False

52..... is calculated by dividing the Hgb by the RBC count:

- A. Mean corpuscular volume
- B. Mean corpuscular hemoglobin
- C. Mean corpuscular hemoglobin concentration

53. Signs & symptoms of Iron Deficiency include all the following except:

- A. Development delays and behavioral disturbances
- B. Altered CNS development and impaired work capacity
- C. Spinal cord degeneration and sore tongue or mouth
- D. Preterm delivery and delivery of low-birth weight baby

54. The diagnosis of diabetes mellitus usually can be made if the 2-hour postprandial glucose is equal to or greater than 200mg/dL, especially if previous tests reveal fasting hypoglycemia:

- A. True
- B. False

55. C-peptide levels may be ordered to all the following except:

- A. Check to see whether hepatoma was completely removed
- B. Distinguish between type 1 and type 2 diabetes
- C. Identify the cause of hypoglycemia
- D. Check to see whether insulinoma was completely removed

- 56. All the following related to high levels of C-peptide except:**
- A. Indicate high levels of endogenous insulin production
 - B. May be a response to high levels of glucose intake
 - C. May be a response to insulin resistance
 - D. Occur in patient with type 1 diabetes
- 57. Any of the following lab tests specifically assess red blood cell characteristic:**
- A. Mean thrombocyte hemoglobin
 - B. Mean corpuscular hemoglobin concentration
 - C. Red blood cell distribution width
 - D. All the above
 - E. Both B and C
- 58- Diseases or conditions in which circulating RFs have been identified include:**
- A. Systemic lupus erythematosus (SLE)
 - B. Healthy individuals
 - C. Acute and chronic inflammatory diseases
 - D. All the above
 - E. Both A and C
- 59- Fructosamine is a component of the hemoglobin molecule and high fructosamine conc may alert caregivers to deteriorating glycemic control earlier than increase in A1C:**
- A) true
 - B) False
- 60- Any of the following tests are used to monitor cholestasis:**
- A. Albumin and Prealbumin
 - B. AST, ALT and Bilirubin
 - C. Gama-glutamyl transpeptidase, Bilirubin and Alkaline phosphate
 - D. All the above
 - E. Both C and D
- 61- It is much more SPECIFIC for MI:**
- A. AST
 - B. ALT
 - C. Bilirubin
 - D. Both A and B
 - E. All the above
- 62. Any of the following are related to Hgb:**
- A. Is the conc. of the metalloporphyrin-protein contained in a given volume of whole blood
 - B. Provides a direct indication of the oxygen-transport capacity of the blood
 - C. Is the percentage volume of blood that is composed of erythrocytes
 - D. Both A and B
 - E. All the above
- 63. Reticulocyte count:**
- A. Is the cell form that precedes the mature RBC or erythrocyte
 - B. Decreased in acute blood loss and hemolysis
 - C. Increased in vitamin B12, and folate deficiency
 - D. Both A and B
 - E. All the above
- 64. Any of the following are related to hematocrit (Hct):**
- A. It is the percentage volume of blood that is composed of thrombocytes
 - B. It is also known as the packed cell volume
 - C. It is 3 times the value of the Hgb
 - D. Both B and C
 - E. All the above

65. Methylmalonic acid (MMA):

- A. MMA is a more specific marker for vitamin B12 deficiency compared to homocysteine
- B. It is not elevated in folate deficiency as vitamin B12 does not participate in MMA metabolism
- C. Both A and B

66- Any of the following are related to complement:

- A. Its deficiency predisposes an individual to infections and autoimmune syndromes
- B. It consists of at least 17 different plasma proteins
- C. It provides a defense mechanism against microbial invaders and serve as an adjunct to humoral immunity
- D. Both A and B
- E. All the above

67- The most closely related tests to Hepatocellular injury are:

- A. Albumin and Prealbumin
- B. AST and ALT
- C. Gama-glutamyl transpeptidase
- D. Alkaline phosphate

68- 111. The ESR and C-reactive protein are two tests that can be helpful in all the following except:

- A. Estimating the extent or severity of inflammation
- B. Monitoring disease activity over time
- C. Assessing prognosis
- D. Confirming or excluding any particular diagnosis

69- Tests that measure the conc of products secreted by the thyroid gland:

- A. Free T₄ and Free T₄ index
- B. Total serum T₄
- C. Radioactive iodine uptake and total serum T₃
- D. Antithyroid antibodies
- E. Both A and B

70- Any of the following are related to rheumatoid factors:

- A. They are immunoglobulins that are abnormally directed against the fraction crystallizable portion of IgM
- B. The presence of it in the blood indicates an autoimmune process
- C. They are most commonly associated with rheumatoid arthritis
- D. All the above
- E. Both B and C

71- All the following are related to DI:

- A. It is a syndrome in which the body's inability to excrete water
- B. Excretion of very small volumes of urine
- C. The urine specific gravity is less than 0.005
- D. All the above
- E. Both A and C

72- The two most common tests to monitor medium and long-term glucose control, respectively are:

- A. The fasting plasma glucose and 2-hour postprandial glucose tests
- B. Glycosylated hemoglobin (A1C) and Fructosamine
- C. Fructosamine and Glycosylated hemoglobin (A1C)
- D. The 2-hour postprandial glucose tests and fasting plasma glucose

73- The most two tests to asses protein synthesis process are:

- A. Albumin and Prealbumin
- B. PT/INR (clotting proteins)
- C. Albumin and INR
- D. Both A and B
- E. All the above

74. The integrity of the hypothalamic-pituitary-thyroid axis is assessed by measuring any of the following:

- A. Antithyroid antibodies and free T₄
- B. TRH and TSH
- C. Serum T₃ resin uptake
- D. Both A and B

75. FPG \geq 100 and $<$ 126 mg/dL represents provisional diagnosis of diabetes

- A. True
- B. False

76. The categories for the oral glucose tolerance test (OGTT) are as follows: 2-hour postload glucose (PG), $<$ 140 mg/dL represents normal glucose tolerance, 2-hour PG 140 – 199 mg/dL represents prediabetes and 2-hour PG \geq 200 mg/dL represents provisional diagnosis of diabetes:

- A. True
- B. False

77. Tests more specific for thyroid status or function can be categorized into:

- A. Measure the conc of products secreted by the thyroid gland
- B. Evaluate the integrity of the hypothalamic-pituitary-thyroid axis
- C. Detects any antibodies
- D. All the above
- E. Both A and B

78. Any of the following are related to laboratory diagnoses of hemolytic anemia:

- A. Decreased reticulocyte count
- B. Hemoglobinuria and increased indirect bilirubin
- C. Normocytic and normochromic
- D. Both B and C
- E. All the above

79. A high radioactive iodine uptake is noted with all the following except:

- A. Thyrotoxicosis
- B. Iodine deficiency
- C. Post-thyroiditis
- D. Euthyroid patients who ingest iodine-containing products

80. Anemia, pregnancy, and various inflammatory diseases can elevate ESR:

- A. True
- B. False

81. Elevated in presence of red cell fragments and microcytic erythrocytes:

- A. Platelet
- B. WBC
- C. RBC

82. Any of the following are related to Albumin:

- A. It is major plasma protein that is involved in maintaining plasma oncotic pressure
- B. It is involved in the binding and transport of numerous drugs, and fatty acids
- C. It is used to assess protein calorie nutrition
- D. Both A and B
- E. All the above

83. At very low concentrations of albumin ($<$ 2-2.5 g/dL), patients can develop:

- A. Peripheral edema and ascites
- B. Pulmonary edema
- C. Marked dehydration
- D. All the above
- E. Both A and B

84. Any of the following are related to the tests that measure the speed of a set of reactions in the extrinsic pathway of the coagulation cascade:

- A. They are INR and Prothrombin time
- B. INR is more precise and easily interpretable, and it is replacing the use of the PT
- C. PT is more precise and easily interpretable, and it is replacing the use of the INR
- D. Both A and B
- E. Both A and C

- 85. A deficiency in activated coagulation factors with subsequent prolongation of PT/INR occur in:**
- A. Hepatic impairment
 B. Vitamin K deficiency
 C. It can be seen in many situations, most of which interfere with the utilization of vitamin K
 D. Both A and C
 E. All the above
- 86. The presence of an elevated ALP in the face of a normal 5'-nucleotidase suggests that the ALP is elevated secondary to:**
- A. Bone disorders and hyperthyroidism
 B. DM and RF
 C. Hepatic disease
 D. Both A and B
 E. All the above
- 87. Medication (phenytoin) or medical conditions (MI) can elevate any of the following enzymes:**
- A. GGT
 B. ALP
 C. 5'-nucleotidase
 D. Both A and B
 E. All the above
- 88. Direct bilirubin greater than 50% indicates direct hyperbilirubinemia whereas less than 30% direct fraction indicates indirect hyperbilirubinemia:**
- A. True
 B. False
- 89. The most common causes of elevated indirect bilirubin are:**
- A. Hemolysis and Gilbert's syndrome
 B. Hepatic disease that interferes with secretion of bilirubin from the hepatocytes or clearance of bile from the liver
 C. Both A and B
- 90..... has high sensitivity and specificity with the added advantage of allowing detection of gastritis and intestinal metaplasia for the diagnosis of H. pylori:**
- A. The urea breath test
 B. The fecal antigen test
 C. Upper endoscopy with biopsy
 D. The serological test
 E. Both B and C
- 91. Laboratory findings in anemia of chronic disease are:**
- A. Low serum iron
 B. High ferritin level and low TIBC
 C. Microcytic or Normocytic and Normochromic
 D. Both A and C
 E. All the above
- 92. Hyperalbuminemia is seen in patients with marked dehydration and hyperalbuminemia is asymptomatic:**
- A. True
 B. False
- 93. Inadequate protein synthetic function is mainly limited to:**
- A. Hepatic cirrhosis
 B. Alcohol abuse
 C. Inflammation or massive liver damage
 D. All the above
 E. Both A and C
- 94. Blood tests that are relatively specific for certain rheumatic diseases include all the following except:**
- A. Rheumatoid factors
 B. Antinuclear antibodies and Complement
 C. Anticyclic citrullinated peptide antibodies
 D. C-reactive protein
 E. Both A and D

- 95..... test is highly specific for RA:**
- A. Rheumatoid factors
 B. Antinuclear antibodies and Complement
 C. Anticyclic citrullinated peptide antibodies
 D. C-reactive protein
 E. Both A and C
- 96. According to synovial fluid characteristics and classification septic synovial fluid has:**
- A. Variable viscosity and color
 B. Is Transparent-Opaque
 C. Protein concentration is 3-5 g/dL and glucose concentration is equal that of blood
 D. All the above
 E. Both A and C
- 97. Radioactive Iodine uptake test is used to detect the ability of the thyroid gland to trap and concentrate iodine and, thereby, produce thyroid hormone. This test assesses the extrinsic function of the thyroid gland:**
- A. True
 B. False
- 98. Central Diabetes Insipidus may be the result of any disruption in the pituitary-hypothalamic regulation of ADH or the secretion of ADH is normal, but the renal tubule does not respond to ADH:**
- A. True
 B. False
- 99. Laboratory findings in Iron deficiency anemia are:**
- A. Low serum iron
 B. High ferritin level and low TIBC
 C. Microcytic and hypochromic
 D. Both A and C
 E. All the above
- 100. Uric acid nephropathy most commonly occurs in any of the following situations:**
- A. Patients with marked overproduction of uric acid secondary to chemotherapy
 B. Patients with gout and profound hyperuricaciduria
 C. Both A and B
- 101. Macrocytic anemia has any of the following:**
- A. Low hemoglobin and high reticulocyte count
 B. Abnormally enlarged erythrocytes
 C. The two most common causes are vitamin B₁₂ and/or folic acid deficiencies
 D. All the above
 E. Both B and C
- 102. Serum Iron level decreases in:**
- A. Iron deficiency anemia
 B. Anemia of chronic disease
 C. Hemolytic anemia
 D. All the above
 E. Both A and B
- 103. Causes of inadequate intake of folic acid:**
- A. Alcoholics and pregnancy
 B. Malabsorption syndromes
 C. Methotrexate and Phenytoin
 D. All the above
 E. Both A and B

104. Normal synovial fluid has the following except:
- A. Is present in small amounts and is clear and acellular (<200 cells/mm³)
 - B. Protein concentration is approximately one-half that of plasma and glucose concentration is higher than that of plasma
 - C. Has a high viscosity because of the hyaluronic acid concentration
 - D. Does not clot because fibrinogen and clotting factors do not enter the joint space from the vascular space

105. Antirheumatic therapies can cause significant adverse reactions that are reflected by any of the following laboratory tests:

- A. WBC count and platelet count
- B. Hepatic aminotransferases and total bilirubin
- C. Serum creatinine, BUN, and urinalysis
- D. Both B and C
- E. All the above

Examiners	Prof. Dr. OSAMA M Ibrahim	Prof. Dr. Sahar El-Haggar
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