



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(MEDICAL LABORATORY SCIENCE)

HML 405: PHARMACOGNOSY

DATE: FRIDAY, 30TH MARCH 2012

TIME: 11.00 A.M. – 1.00 P.M.

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION (5 MARKS EACH)

1. What are the symptoms of alcohol withdrawal?
2. What is synergy? How does it affect the efficacy of drugs?
3. What is propolis and how may it be used?

SECTION B: ANSWER ONE QUESTION IN THIS SECTION (20 MARKS EACH)

1. Describe the pharmacodynamics of Nicotine when smoked, chewed or sniffed.
2. Write brief explanatory notes on each of the following:
 - a) The effect of alcohol on female drinkers as compared to male drinkers
 - b) The classification of drugs in Pharmacognosy
 - c) Two Drying methods for post-harvest preservation of medicinal plants
 - d) Negative health effects of corn oil

SECTION C: ANSWER ALL QUESTIONS (15 MARKS)

1. The part of pharmacognosy which focuses on the use of crude extracts or semi-pure mixtures from nature is
 - A. Phytocognosy
 - B. Ethnopharmacology
 - C. Phytotherapy
 - D. Synergism
2. Which of the following statements is correct?
 - A. In the United States, 80% of the medicines come from pharmacies
 - B. In Africa, 80% of the population relies on traditional medicine

- C. In Kenya, 25% of all prescriptions dispensed from community pharmacies contain herbs
 - D. In Asia, 25% of all community pharmacies sell illegal drugs
- 3. Leaf drugs are collected during the
 - A. Flowering season
 - B. Rainy season
 - C. Autumn season
 - D. Shedding season
- 4. The most common method for post-harvesting preservation of medicinal plants
 - A. Freezing
 - B. Canning
 - C. Soaking in linseed oil
 - D. Drying
- 5. A molecule in which a sugar is bound to a non-carbohydrate moiety is called a
 - A. Glucose
 - B. Glycoside
 - C. Aglocyside
 - D. Genin
- 6. Which of the following plants do not contain cyanogenic glycosides?
 - A. Cassava
 - B. Peaches
 - C. Sorghum
 - D. None of the above
- 7. Which of the following statements is true about the cassava?
 - A. It contains 25mg/100g phosphorus
 - B. The roots and leaves should be consumed raw
 - C. The leaves are deficient in methionine
 - D. It is native to Africa
- 8. The most frequent *O*-glycoside conjugates found on flavones and flavonols are
 - A. Rannose and anthocyanin
 - B. Glucose and rhamnose
 - C. Fructose and glucose
 - D. Phenylpropanoid and fructose
- 9. Saponin glycosides are found in
 - A. Water
 - B. Tree sap
 - C. Sugarcane
 - D. Liquorice
- 10. Wild almonds contain the glycoside amygdalin which, after chewing or crushing, becomes transformed into the deadly

- A. Sulphuric acid
 - B. Prussic acid
 - C. Acetic acid
 - D. Amygdalic acid
11. Which of the following statements is true?
- A. The almond is a nut
 - B. The castor plant is a member of the bean family
 - C. Corn oil can be used as fuel for a lorry
 - D. Almonds are rich in Vitamin C
12. What causes ricinoleic acid (and castor oil) to be unusually polar?
- A. A hydroxyl functional group on the 2nd Carbon
 - B. A hydroxyl functional group on the 12th Carbon
 - C. It has a total of 12 Carbons
 - D. It has 18 carbons
13. The following are constituents of refined corn oil except
- A. 55% polyunsaturated fatty acid
 - B. 20% glycogen
 - C. 15% saturated fatty acid
 - D. 30% monounsaturated fatty acid
14. Agar is a polymer made up of subunits of the sugar
- A. Galactose
 - B. Fructose
 - C. Lactose
 - D. Glucose
15. Simple phenolic compounds include the following except
- A. Propolis
 - B. Capsicum
 - C. Henna
 - D. Hop
16. Beer's bitter aroma is caused by
- A. Alpha acids
 - B. Beta acids
 - C. Gamma acids
 - D. Theta acids
17. The essential oils from most citrus peels are obtained through
- A. Hydro-distillation
 - B. Solvent extraction
 - C. Hydro-distillation
 - D. Expression
18. Terpenes are isometric substances of the formula

- A. $C_{10}H_8$
 - B. C_1H_{16}
 - C. $C_{10}H_{16}$
 - D. C_5H_8
19. Which of the following statements is false?
- A. Nicotine is only found in tobacco
 - B. Nicotine is an alkaloid
 - C. Nicotine is an anti-herbivore chemical
 - D. Nicotine is miscible with water in its base form
20. The average amount of alcohol that occurs naturally in the blood of a person of about 80kg is
- A. 16g
 - B. 0.861g
 - C. 6g
 - D. 1.68g
21. The organs mostly responsible for the breakdown of alcohol are
- A. Stomach and liver
 - B. Liver and pancreas
 - C. Kidney and liver
 - D. Intestines and pancreas
22. Which of the following statements is true about alcohol?
- A. Alcohol does not contribute to causing depression
 - B. Alcohol consumption during pregnancy can cause accelerated fetal growth in the womb
 - C. Low to moderate alcohol consumption may offer some protection against ischaemic stroke
 - D. Low to moderate alcohol consumption may increase the risk of coronary heart disease
23. The organ that is most affected by alcohol is
- A. Brain
 - B. Intestines
 - C. Oesophagus
 - D. Stomach
24. 70-90% of alcoholics suffer to some degree from the disorder of
- A. Hyperglycaemia
 - B. Hyperactivity
 - C. Hypoglycaemia
 - D. Hemorrhaging
25. Most crude drugs are dried after collection except
- A. Lemon peels
 - B. Opium

- C. Aloe
 - D. Black catechu
26. The stalk particles can be removed from dried herbs by
- A. Sieving
 - B. Burning
 - C. Winnowing
 - D. Distillation
27. There is a high concentration of tannins in all of the following except
- A. Tea
 - B. Cocoa
 - C. Cinnamon
 - D. Pepper
28. Which of the following statements about cassava is false?
- A. A dose of 40mg of pure cassava cyanogenic glucoside can kill a cow
 - B. Cassava cyanogenic glucoside can cause cause pancreatitis in humans
 - C. Cassava roots have a high protein content
 - D. Cassava is a perennial plant and can be harvested throughout the year
29. The Almond tree is native to
- A. The Middle East
 - B. Africa
 - C. South America
 - D. North America
30. The main component of castor oil is
- A. Ethanoic acid
 - B. Ricinoleic acid
 - C. Peptic acid
 - D. Stomach acid
