

NAME _____fatemeh masoodi 71951_____

The electronic responses to this examination are due on Monday, 15 June 2015 at end of day (5:00 pm). Submit them to shalloran@lifewest.edu OR to smhbizness@gmail.com. You will be sent an acknowledgement receipt.

You are not allowed to consult with classmates or any individuals *other than* the instructor as you research, prepare and compose your responses to the questions posed in this examination. Lecture content (slides) and your oral presentations are on MOODLE for you to use in preparing answers, in addition to access to the LCCW library, reference books and course text books, and on-line resources. Please proofread and organize your work and assemble the exam before submitting it.

Some answers require you to include a citation of the sources you consult to formulate your response. Format your citation according to MLA or APA standards. (If you wish, you can use the built-in Word feature that formats your references: under the References tab, use Insert Citation and fill in the fields as much as possible. Later you will use Bibliography->Insert Bibliography at the point of the cursor. You might learn how to use Section Break too in order to insert bibliographies under separate answers. I have put in section breaks in this document between questions.)

By working the examination and submitting it for grading you are agreeing to work independently of all other individuals and you are certifying that all the responses and answers to the examination questions are your own work.

Within group A through C, choose ONE of any of the choices answer.
Choose between D or E, and within D, choose ONE of any of the choices

A. Environmental Toxicants. Pick one from the three class of substances below and discuss exposure (places where it might be encountered), its toxicokinetics (ADME) and toxicodynamics (acute, chronic toxicity, effects on physiology and eliciting pathologies. You are allowed to focus on one compound in the class or discuss the toxicology of the class generally

1. Polyaromatic hydrocarbons (PAHs)
2. Pesticides—Insecticides: organophosphates
3. Polychlorinated Biphenyls (PCBs)

Because of the lower vapour pressure PCB first stores in the hydrosphere in the natural part of soil.in the oceans the large and huge amounts of water is capabale of dissolving the considerable amounts of PBC. Also some amounts of PBC seen in atmosphere that

in rural area it is really not a lot and not considerable to big cities.¹ where they can get to 1 ng/m³ or more. in milvaki this amounts is really more to 1.9 and this source alone was just estimated to account for 120 kg/year of PCBs enter into Michigan lake. Some places in united states you can find in the house large amount more than amounts consider from EPA. "Volatilization of PCBs in soil was thought to be the primary source of PCBs in the atmosphere, but recent research suggests ventilation of PCB-contaminated indoor air from buildings is the primary source of PCB contamination in the atmosphere".

In the air and atmosphere PBC can change to some hydroxyl radicals. But in the biosphere the PBC can change to bacteria or eukaryotes but if we want to see how fast is the reaction it depends on number and disposition of the chlorine atoms in the molecules.

B. Food Toxicants.

1. Heterocyclic amines (HCAs) can form when meat is cooked often at charring temperatures. Find one compound in this class, discuss how it is formed in cooking and sources of exposure, and discuss effects of chronic toxicity, either in humans or animal studies
2. Sulfur dioxide (SO₂) is added to wine during its production. Discuss what is known about acute and chronic toxicity and other toxicodynamic features. Can wine be produced without using it? Are there are alternatives
These days adding so₂ or sulfate dioxide in wine making job is really acceptable. so₂ is famous for food additive 220 or 202. it has really simple chemical structure and naturally it can produce in wine but really in low amounts during the alcoholic fermentation. But most so₂ add to wine by wine maker factory or people. mostly it is added for making white wine and has less usage for red wine. so₂ can add as powder or gas to wine bottle. So₂ can really cause severe allergic affect in some people.

"So why do winemakers use it? Put simply, it is very difficult to make wines that have an aging potential beyond a few months if sulfur dioxide is not used during winemaking. A big statement but true." so₂ has 2 role first this chemical substance is antimicrobial and second it is antioxidant as well too. protection the wine's fruit integrity and protecting it against browning. Despite its chemical easiness, SO₂ can have a few different shape in a wine. One form is called 'molecular SO₂'. When in this form, it is around 500 times more effectual in killing wine microbes than when in any of the other forms that it can take. Luckily for us, the desirable yeasts that undertake wine fermentation are more strong to SO₂ than most of the waste yeasts. When dissolved in wine, SO₂ can also happen in what is called an ionised form. This form has the greatest antioxidant consequence. In actuality, SO₂ isn't that strong to react directly with oxygen, but it does readily combine with other oxidising agents that are formed in the presence of oxygen. In combination with molecular SO₂ which plays a further role of 'knocking out' the naturally occurring enzymes in grapes that cause wines

to brown (called polyphenoloxidases), SO₂ is a powerful force in keeping wines fresher longer.

3. Food Coloring Dyes. FD&C Blue No. 1, Red No. 40, Yellow No. 5, and Yellow No. 6 are common additives to food. Pick TWO of these and discuss what is known about the effect on health and name one alternative to using the dye, comparing financial costs and effect on health.

- C. Drug-Nutrient Interactions. Select any of the drugs or drug classes below and explain how it affects diet (nutrient absorption). Either suggest an alternative drug and/or explain how an individual can compensate for any effect on nutrition

B. Laxatives

This material is mostly increase movement for gi track and then decrease the time for absorption the material , if we use a lot of amounts of this subctance we mostly depleted from all vitamins and minerals that is needed for the bodies function . and also we will loose alarge amounts of water as well that can ciuse to dehydration in body.

Water: Water is the most overlooked laxative. It softens stools and prevents dehydration
Prunes: purple and sweetened fruits that are high in potassium and vitamin A. They are often seen as a home remedy for constipation

Coconut water: Coconut water is similar to tree sap. It is sweet with increasing semen and promotes digestion and the clearing of the urinary path. Additionally research has found coconut water to have a positive effect on cholesterol.

C. Antacids

Antacids make neutralize for stomach acid, and they are acid blockers deacrese stomach acid creation. use of these drugs for long times may cause to certain nutrient deficiencies. This is because stomach acid is important in the digestion and/or absorption of nutrients. Older people the produce very few amounts of stomach acid, which leads to low absorption of vitamin B12. normal usage of antacids or acid blockers reduce and decrease B12 absorption even more. Vitamin B12 supplements may be needed in this situation. Antacids reduce a lot of stomach acidity and may conflict with iron, folate and vitamin B12 absorption

D. Anticonvulsants

- A. Anticonvulsant drugs can help control seizures. Phenytoin (Dilantin), phenobarbital and primidone may lead to diarrhea and a reducing the appetite. This can really reduce the amounts that is available of many nutrients. These drugs also increase the use of vitamin D in the body. This means that not enough vitamin D is available for important functions such as calcium absorption. Vitamin D supplements may be really needed in this situation. Some anticonvulsants also has conflict with the B vitamin

folic acid. When drug therapy is starting, folic acid degree in the body decrease. Because folic acid supplements affect blood levels of the drug, folate supplementation must be supervised by a doctor. Some anticonvulsants can decrease folate absorption. Folate deficiency can result in megaloblastic anemia.

You can do either D or E below

- B. Personal Care Products. Select one of the product types and the named compound usually contained in it. Discuss any facts on acute and chronic toxicity through dermal exposure, and discuss alternatives to

1. Lipstick: lead acetate

lead is a chemical substances that usually aim for nervous system , brain and kidney and reproductive organ, it can have affection of low doses as well , mostly can affect the brain iq and damage and dermatome problem like rashes and allergies and for high dosage can cause cancer too. in reproductive system can cause fertility problem and miscarriage . large doses are really dangerous because can cause several sever problem for brain and serious cancer and kidney damage and fertility and spontaneous abortion .during pregnancy it has very dangerous effect for fetus and can cross placenta and can lead to impaired brain damage ,premature birth small baby and growth problem. By decreasing and check your exposure to lead now, you can decrease its bioaccumulation in your body, and protect your future infant. According to the CDC, no safe blood lead level in children has been identified. The CDC recommends eliminating lead in children's environment before they are exposed. our question here is about pretense of lead in cosmetics. this material in low does you can mostly every where , we try to see the affection of this chemical on our body for lipstick which is a product that aim for topical use with limited absorption and it is only ingested in few amounts and very low dosage and we do not need to be worried for the softly use of lipstick and also it is under the authorities of public health in united sates to check the amounts of lead in lipstick.

2. Antiperspirants: aluminum chlorohydrate

3. Shaving Lotion: find a toxicant in the shaving lotion and discuss it

- C. Sexual dysfunction therapy. A medication for hypoactive sexual arousal disorder recently was in the news. This medication, flibanserin, is being called a "female Viagra."

- (a) Discuss the effect of the drug both at clinical and molecular level
- (b) Discuss alternative therapies, including those in chiropractic medicine