HES 5121: Epidemiologic Methods

1. Define epidemiology and list 4 of its most important uses
2. State the main differences between : cross-sectional and case control studies indicating the relevant measures of association suitable for each of the two study designs

3. Briefly describe each of the following study designs and outline their main differences
   A. Observational and experimental studies
   B. Retrospective and prospective cohort studies

4. Define confounding and describe how you can deal with it at the study design and in analysis.

5. In order to assess whether pediatric formulation (water dispersible tablet) of co-artem works in the same way as the conventional co-artem tablet, children with malaria infection were randomly allocated to two groups; Group 1: were given conventional crushed tablet and group 2: given the new water dispersible pediatric formulation and followed up for clearance of malaria parasite and or re-infection after 42 days:

a. State the study design?
b. state potential sources of bias in this study and discuss how they would have been minimized

6. In 1998, Usigu Division in Bondo district was inhabited by 45, 000 people all of whom were thought to be exposed to the risk of urinary schistosomiasis. In the month of July 1998 the Kenyan Danish Health Research Project, in a bid to estimate the prevalence of the disease in Usigu, tested 3500 people of whom 500 were found to have the disease.

a) What was the study design?

b) Calculate the prevalence of urinary schistosomiasis in this community?

c) If the incidence of the disease was 50 new cases per year and the average duration of the disease was 1 year, what would the prevalence have been?

d) What factors would affect the accuracy of prevalence estimates