**To complete the exam, you must answer one question from each of the three sections below in an essay format. Each answer should be a self-contained essay approximately 8–10 pages long (i.e., 2,000–2,500 words). Although you must cite to referenced work in each essay, one comprehensive bibliography for all three questions will be sufficient. You may consult materials from the reading list you've been provided, as well as any other scholarly sources you've read during the exam period.**

**Please make sure to label clearly which question you're responding to.**

**Section One, Answer A or B:**

A. Health researchers interested in the impact of time must contend with age, period, and cohort (APC) effects.
    a. First, leveraging the life course perspective, define each component (age, period, and cohort) and explain the importance of each component for understanding population health processes.
    b. Now, explain the methodological difficulties of APC analyses.
    c. Some researchers choose to only focus on one aspect of APC, depending on their research question and policy implications. Let's say you are interested in studying the rise of opioid-related deaths in the population. To understand this phenomenon, which do you argue would be most important to focus on – age, period, or cohort effects? In your response, make sure to mention why you would not focus (or focus less) on the other two effects.

B. Researchers are increasingly looking to early life to explain health and health disparities that are observed in adulthood (i.e., the "long arm of childhood").
    a. Explain sensitive and critical period models for linking childhood to adult health and how they differ. Provide examples for both.
    b. Adult health is also influenced by adult circumstances. Describe the four life course causal models -- accumulation of risk (independent and clustered) and chains of risk (trigger and additive).
    c. Now, pulling from the theoretical models in (a) and (b) as well as your reading of the literature, argue which model best describes the influence of childhood socioeconomic status on adult chronic disease (e.g., heart disease). Your response should include discussion of the role (if any) of adult socioeconomic status.

**Section Two, Answer C or D:**

C. Family structure changed dramatically over the past half-century, with critical implications for child wellbeing and social inequality.
    a. Describe the major changes in family structure in the United States (or another context you are familiar with), including trends in single-parent households, stepfamilies, multigenerational households, and cohabiting-parent families.
    b. How do patterns of family structure and instability vary by race, ethnicity, and social class? What theoretical frameworks help explain these disparities, and what are the implications for the reproduction of inequality across generations?

D. The children of immigrants, often called the "second generation", offer a lens for understanding the long-term consequences of migration for individuals and societies.
    a. What factors shape the varied outcomes among children of immigrants? In your response, make sure to consider the roles of: parental resources, legal status, racial/ethnic classification, and community context.
    b. How might a life course perspective enrich our understanding of the second generation?

**Section Three, Answer E or F:**

E. There are multiple theoretical frameworks for understanding health disparities, including 1) fundamental cause theory, 2) cumulative inequality theory, 3) structural racism, and 4) intersectionality. While these frameworks have advanced our understanding of health inequalities, they also face conceptual and methodological challenges.
    a. What is one major advantage of each of these frameworks? What is one major limitation or gap in what each of these theories can explain?
    b. Drawing on specific readings, explain why race, gender, and socioeconomic status are not deterministic factors in shaping health disparities but are instead social factors that shape health disparities. Please include a discussion of mediators and modifiers in the relationships among race, gender, socioeconomic status, and health outcomes.
    c. Drawing on specific readings, discuss how current measurements of race (e.g., racial categories on the U.S. census, or the option to select more than one race), expand and limit our understandings of racism as a fundamental cause of health.

F. There are fundamental measurement challenges in population health research, including how we assess or use the self-rated health measure, and integrate biomarkers into social research. These measurement decisions are not merely technical—they shape what questions we can ask, what patterns we can detect, and ultimately what we understand about health disparities. Relying on relevant sociological studies, address the following:
    a. What is self-rated health and what are some advantages and disadvantages of the self-rated health measure? What are the advantages and disadvantages of

biomarker measures? Finally, what are the advantages and disadvantages of using self-reported physical health limitations in research?

b. Provide one example of how self-rated health, biomarkers, and counts of physical limitations have each expanded our knowledge about population health patterns and health disparities. Be sure to discuss what remains unknown about population health patterns and health disparities when using these measures.
c. Imagine applying the fundamental causes or cumulative inequality framework to your next study. For whichever framework you choose, what is an idea measure of health (e.g., self-rated health, biomarkers, counts of physical limitations, or something else) and what are the limitations of the measure?