Practice Test 7

Part C

Antimicrobial Resistance

Paragraph 1

Antimicrobial resistance (AMR) is increasingly recognised as a major global health threat, although its development has been gradual rather than sudden. It occurs when microorganisms such as bacteria, viruses, and fungi adapt in ways that reduce or eliminate the effectiveness of antimicrobial drugs. Consequently, infections that were once straightforward to treat are becoming more difficult to manage, raising concerns not only for individual patient outcomes but also for healthcare systems more broadly.

Paragraph 2

Recent data from international organisations, including the World Health Organization, indicate that drug-resistant infections are already responsible for hundreds of thousands of deaths annually. While these figures vary across regions, projections suggest that, without effective intervention, mortality could increase substantially over the coming decades. Some estimates even place future global deaths in the millions, highlighting the scale of the potential crisis.

Paragraph 3

A key factor contributing to antimicrobial resistance is the widespread misuse of antibiotics in both community and hospital settings. In some cases, antibiotics are prescribed for conditions where they offer no clinical benefit, such as viral infections. In others, incorrect dosing or incomplete treatment courses allow partially resistant organisms to survive. Over time, these surviving microorganisms may multiply, leading to reduced drug effectiveness.

Paragraph 4

Antibiotic use in agriculture has also been identified as an important contributing factor. In certain regions, antimicrobial agents are administered routinely to livestock for purposes that extend beyond disease treatment, including growth promotion. This practice can encourage the development of resistant bacteria, which may subsequently be transmitted to humans through food consumption or environmental exposure, although the extent of this pathway remains under investigation.

Paragraph 5

Healthcare systems play a central role in addressing antimicrobial resistance, particularly through infection prevention and control measures. Practices such as hand hygiene, sterilisation, and patient isolation are known to reduce the transmission of resistant organisms. At the same time, antimicrobial stewardship programmes aim to promote the appropriate use of antibiotics, although their effectiveness can depend on local implementation and adherence.

Paragraph 6

The consequences of antimicrobial resistance are not limited to individual patients. Resistant infections are frequently associated with longer hospital stays, increased treatment costs, and a greater likelihood of complications. In some situations, clinicians may be forced to rely on less effective or more toxic medications, which can further complicate patient management.

Paragraph 7

Efforts to address antimicrobial resistance require coordinated action at an international level. Governments, healthcare providers, and research institutions are increasingly working together to improve surveillance, regulate antibiotic use, and support the development of new treatments. However, progress has been uneven, and challenges remain in ensuring consistent implementation across different healthcare systems.

Paragraph 8

Public awareness is also considered a critical component in managing antimicrobial resistance. Educating patients about appropriate antibiotic use, including the importance of completing prescribed courses, may help reduce misuse. Nevertheless, changing established behaviours at a population level can be difficult and may require sustained public health campaigns.

Paragraph 9

Beyond its clinical impact, antimicrobial resistance is associated with significant economic consequences. Increased healthcare costs, prolonged hospitalisation, and reduced workforce productivity all contribute to a broader financial burden. Some projections suggest that, if left unaddressed, AMR could have an economic impact comparable to that of major global financial crises.

Paragraph 10

Despite growing recognition of the problem, the development of new antibiotics has slowed in recent years. Pharmaceutical companies often face economic and regulatory barriers when bringing new drugs to market, which has limited investment in this area. As a result, the pipeline of novel antimicrobial agents remains relatively small.

Paragraph 11

In response to these challenges, several countries have introduced national action plans aimed at controlling antimicrobial resistance. These initiatives typically include monitoring antibiotic usage, strengthening prescription regulations, and supporting research into new treatments, although their success varies depending on available resources and political commitment.

Paragraph 12

The World Health Organization has identified antimicrobial resistance as a priority requiring urgent global attention. Without effective intervention, conditions that are currently manageable could become significantly more difficult to treat, potentially reversing many advances in modern medicine.

Paragraph 13

Despite the seriousness of the issue, experts generally agree that antimicrobial resistance can still be managed. A combination of improved clinical practices, ongoing research, and international cooperation may help limit its impact, although sustained effort will be required to achieve meaningful progress.