



UNIVERSITY OF CUMBRIA
COURSEWORK REASSESSMENT REQUIREMENT

Module Code: HSOB5006

Module Title: Medical Microbiology

Tutor: Dr. Wendy Davidson

Title of the item of work: Assignment 2

LEARNING OUTCOMES

1. Outline medically important pathogens and describe in detail disease causation and protocols in place for the diagnosis and identification of key pathogens.
2. Illustrate the diversity of medically important pathogens within the microbial world using examples of current local and global interest.
3. Recognise the importance of diagnostic microbiology and its application in both the clinical and environmental field.
4. Compare and contrast strategies by which pathogens invade and cause disease in a host, including subversion of the immune system.
5. Evaluate strategies for the prevention and treatment of infection; relate the specific properties of pathogens to diagnostic methods.

Details and Criteria:

There are 5 essay questions provided below. **You are required to complete only two of your choice.** This assessment is worth 60% of the overall module.

Each question has a dedicated word count of 1000 and has been written to target the learning outcomes (LO) illustrated above (LO1-5). Collectively this piece of work will be 2000 (+/- 10%) words.

It is important you refer back to the LOs throughout to ensure you are meeting the assignment requirements. Harvard Referencing should be used throughout and the marking criteria is based on the rubric provided. Please note that your list of references may be presented collectively at the end of the coursework and will not contribute to the word count, however in-text citations will.

It is important you research around the subject matter and do not rely solely on material covered in class.

Medical Microbiology HSOB5006.

Select two essay questions from the options below.

1. Spirochaetes from the genera *Leptospira*, *Treponema*, and *Borrelia* are highly invasive pathogens that, as the agents of leptospirosis, syphilis (*T. pallidum*), Lyme disease (*B. burgdorferi*), and relapsing fever (*B. hermsii*, *B. recurrentis*, and others), pose public health problems of global dimensions. Select a pathogen of your choice from the genera Spirochaete and describe the pathogenesis, host response, laboratory diagnosis, treatment and prophylaxis for your chosen pathogen.

(1000 words)

2. Select a virus of your choice and discuss: key clinical signs, routes of transmission, viral morphology and virulence factors, host immune response, diagnostics, treatment and prevention strategies.

(1000 words).

3. Protozoa are single-celled organisms. They are potentially the cause of more sickness, death and debilitation in the world than any other group of disease-causing organisms. Select a protozoa of your choice and describe the pathogenesis, host response, laboratory diagnosis, treatment and prophylaxis for your chosen pathogen.

(1000 words)

4. Describe the pathogenesis, laboratory diagnosis, treatment and prophylaxis of *Mycobacterium tuberculosis*.

(1000words)

5. Prions are novel, transmissible pathogens that differ from viroids, viruses, parasites, fungi, and bacteria, both with respect to the diseases they cause and their proposed origin. Discuss this statement drawing on examples, theories postulated as to the cellular role of PrP, its proposed role in disease, host response and methods of diagnosis. In addition, consider advancements made regarding the treatment of prion diseases, such advancements may only be experimental research at this stage but may offer hope for the future.

(1000 words)

SUBMISSION DATE AS PER STUDENT PORTAL

To be submitted by **4 PM** on **26/05/23** via Turnitin on the Module Blackboard site.