**MIC 622 Advanced pathogenic bacteria**

**Final Exam**

*1-Bordetella pertussis* has been observed to survive inside macrophages Explain?

2-*Staphylococcus aureus* has been shown to resist oxidative killing. Explain and prove experimentally.

3-In the enteric pathogen *Vibrio cholera,* disruption of the fadD GENE Impairs  pathogenecity. Why?

4-Obtaining iron is a critical process for uropathogenic *Escherichia coli* survival in vivo. What do you think?

5-Lipid A structure is a critical determinant of the interaction between pathogens and the innate immune system. Explain this with regard to *Porphyromonas gingivalis*.

6-The fimbriae of *Yersinia pestis* are required for its pathogenecity. Explain?

7- Biofilms could enhance pathogenecity. Explain this with regard to *Staphylococcus epidermidis.*

8-Full virulence of *Pseudomonas* *aeruginosa* requires the porin OprF. Demonstrate?

9-The capsular polysaccharide of *Salmonella enterica* is an important virulence factor. Why?