

**PG Degree Supplementary Examinations in Microbiology (MD) -  
November 2016**

**Paper IV - Applied Microbiology and Recent Advances in Microbiology**

**Time: 3 hrs**

**Max marks:100**

- ***Answer all questions***
- ***Draw diagrams wherever necessary***

**Essays: (20)**

1. Define and categorize biomedical waste. Describe in detail about collection, segregation, storage and transportation of hospital biomedical waste. Discuss recent advances in the treatment and final disposal of biomedical waste.

**Short essays: (8x10=80)**

2. Discuss polymerase chain reaction (PCR) and its modification as a tool in clinical microbiology.
3. Discuss aetiological agents and methods in detecting blood stream infections (BSI)
4. Define pyrexia of unknown origin. How will you investigate a case of endocarditis.
5. Discuss signal amplification techniques as a rapid diagnostic tool in clinical molecular biology.
6. Narrate various steps involved in the investigation of an outbreak. How will you investigate a case of food poisoning.
7. Discuss the principle and role of MALDI-TOF-MS in rapid detection of microbial pathogens.
8. Discuss the role of DNA microarray in clinical microbiology.
9. Enumerate organisms causing reproductive tract infection. Outline laboratory methods for its identification and detection.