(LI 117) APRIL 2016 **Sub. Code:2014**

M.D. DEGREE EXAMINATION
BRANCH IV – MICROBIOLOGY
PAPER I – GENERAL MICROBIOLOGY AND IMMUNOLOGY
Q.P.Code: 202014

Time: Three Hours **Maximum: 100 Marks**

I. Essay Questions: **(2 x 10 = 20)**

1. Describe bacterial cell wall. Add a note on the demonstration of cell wall.
2. Define vaccine? Describe the advantages of active vaccination over passive vaccination with examples. Write in detail about vaccine delivery systems.

II. Short Questions: **(8 x 5 = 40)**

1. Koch's postulates and Koch's phenomenon.
2. MHC restriction.
3. Presumptive coliform count.
4. Real time PCR.
5. HPLC (High Pressure Liquid Chromatography).
6. Competitive ELISA.
7. Gut associated Lymphoid Tissue.
8. Transferable drug resistance.

III. Reasoning Out: **(4 x 5 = 20)**

1. Why Mueller Hinton agar is used in antimicrobial susceptability testing?
2. Oxygen is toxic to anaerobic bacteria. Explain the reason?
3. What is the role of restriction endonucleases in molecular genetics?
4. Multiple vaccines like DPT are given simultaneously. What is the mechanism behind it?

IV. Very Short Answers: **(10 x 2 = 20)**

1. Mesosomes.
2. Define psychrophilic bacteria with example.
3. Function of Tumour Necrosis Factor α.
4. Name Four scientists who were awarded Nobel Prize for their work in immunology?
5. Write the immunology behind waterhouse friderichsen syndrome.
6. Spaulding's classifications in sterilization.
7. Freund's complete adjuvants.
8. Immunological surveillance.
9. What is T antigen?
10. Eichwald-silmser effect.

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