ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE -27
MID SEMESTER TEST – AUGUST 2016
M.Sc. MICROBIOLOGY – I SEMESTER
MB 7316 : MICROBIAL GENETICS

Time: 1 ½ hours **Max. Marks:35**

I. Answer any FIVE of the following. **5x2=10**

1. What do you understand from HDAA in a DNA strand?
2. How was RNA proved as genetic material?
3. When and how base flipping occurs in a DNA?
4. Define micro and mini satellite DNA.
5. Comment on LK of a superhelical DNA.
6. Draw the mobilization pattern of $F^+mob^+bom^+$
7. Comment on replicative forms.

II. Answer any TWO of the following. **2x5=10**

8. Compare the structural properties of A, B and Z forms of DNA.
9. Write a short note on plasmid DNA replication.
10. What are the different types of natural plasmids?

III. Answer any ONE of the following. **1x10=10**

11. a. Draw and explain DNA denaturation curve
    b. Draw and explain the organization of *E.coli* genome.
12. Explain the life cycle of T 7 phages and add a note on its applications in microbial genetics.

IV. Answer the following. **1x5=5**

13. Which of the following relations will be found in the % of bases of a dsDNA molecule.

a. A+T = G+C **b.** A+T = T+A **c.** A+C = G+T **d.** $\frac{A+T}{C+G}$

e. $\frac{A+G}{C+T} = 1$ **f.** $\frac{A}{C} = \frac{G}{T}$ **g.** $\frac{A}{G} = \frac{T}{C}$ **h.** $\frac{A}{T} = \frac{G}{C}$