**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

**B.Sc. BIOTECHNOLOGY– IV SEMESTER**

**SEMESTER EXAMINATION: APRIL 2017**

**BT 415 : Molecular Biology**

Time- 1 1/2 hrs Max Marks-35

**This paper contains ONE printed page and TWO parts**

1. **Answer any SEVEN of the following 7 X 2 = 14**
2. Comment on the GroEL/GroES complex.
3. Name the enzymes involved in the *lac* operon and their functions.
4. What is alternative splicing?
5. Compare prokaryotic and eukaryotic promoters.
6. Briefly describe Griffith’s experiments that lead to discovery of the ‘transforming principle’.
7. What are the roles of DnaA, DnaB and DnaC proteins in replication?
8. How are Pyrimidine dimers repaired in eukaryotes?
9. Briefly describe the SOS response of DNA repair.
10. Draw a neatly labelled diagram of a replication fork.
11. Briefly describe the structure of a ribosome.
12. **Answer any THREE of the following 3 X 7 = 21**

11. How is the *trp* operon regulated by the process of Attenuation?

12. What are the different types of mutagens? Give examples for each.

13. Compare and contrast prokaryotic and eukaryotic processing of mRNA.

14. Describe post translational processing of proteins.

15. Describe the structure of the prokaryotic DNA polymerase. Add a note on the different types and roles of prokaryotic and eukaryotic DNA polymerases.