Register No:
Date:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE

III SEMESTER EXAMINATION, OCTOBER 2019

MSc IN BIG DATA ANALYTICS

BDA 3618: BIOINFORMATICS

TIME 2 1/2 HRS **MAX MARKS 70**

This Question Paper Contains One Printed Page And One Part

ANSWER ANY SEVEN QUESTIONS **7 X10 = 70**

1. **What is genetic information? How it is used by the cells and propagated?**
2. **Write a note on the importance of sequence analysis. Discuss various features of BLAST tool and list important parameters for choosing the best alignment.**
3. **Write a note on five eukaryotic cell organelles along with their major functions.**
4. **What are the various applications of next generation sequencing in research and healthcare?**
5. **Differentiate between reference and *de-novo* NGS assembly. Write a note on the steps involved in reference alignment along with the type of input required and output generated in each step.**
6. **Discuss in detail about the applications of multiple sequence alignment along with its importance. Write a note on various features of ClustalOmega tool.**
7. **Define genomics, transcriptomics, and proteomics. Write a note on various high-throughput data generated in these fields and their applications.**
8. **Write a detailed note on BLAST algorithm.**
9. **Discuss the BOWTIE algorithm in detail.**