## Shahjalal University of Science and Technology, Sylhet

## **Department of Biochemistry and Molecular Biology**

## **BMB-422: Genomics and Proteomics**

Marks 10; Time: 30 mins

## Write down whether the statements are true or false. If false provide the correct answer

- 1. The draft of the Human Genome Project was published in 2003
- 2. The HOX genes are associated with developmental process
- 3. Human genome contains around 50,000 genes
- 4. Hundreds of Human genes are derived from bacteria by horizontal transfer
- 5. Some SNPs are associated with diseases
- 6. Females are more mutation prone than man
- 7. Human Genome Projects uses BAC which is more suitable than YAC and cosmid
- 8. CpG islands are underrepresented in Human genome
- 9. CpG islands are associated with the 3' end of the gene
- 10. Chromosome Y has an unusually high CpG island per Mb
- 11. Genetic maps are measured by cM whereas Physical maps are measured by Mb
- 12. The average recombination rate increases as the length of the chromosome arm decreases
- 13. Transposons are of mainly three types
- 14. Line contains two ORF and one DNA Polymerase I binding site
- 15. Most SINEs live by sharing the 3' end of a resident LINE
- 16. LTR retrotransposons move by 'cut and paste' mechanism
- 17. Age distributions of the repeats provides a rich fossil record of Human genome
- 18. There is no evidence of DNA transposon activity in the past 50 MYrs in the human genome
- 19. The heterochromatic portion of human genome has a higher density of transposable element when compared with fly, worm and mustard weed
- 20. LINE1 and alu are the most dominant repeats in fly, worm and mustard weed
- 21. HOX genes clusters of the human genome are the region with highest density of interspersed repeats
- 22. Genetic material of chromosome Y is unusually old
- 23. Transposable elements are contributory force of regulatory elements and genes
- 24. SSRs are important in genetic studies due to their high degree of polymorphisms
- 25. Segmental duplication are defined as segments that are duplicated among nonhomologous chromosomes
- 26. Dystrophin (DMD) gene is the largest known gene of human genome
- 27. Titin gene has the lowest number of exon
- 28. Vertebrate specific protein domains are mainly involved in digestion and reproduction
- 29. Human and mice shared a common ancestor 100 MYrs ago
- 30. Write the name of one gene that may be transferred to human by horizontal transfer?