



**Shahjalal University of Science & Technology, Sylhet**

**Department of Biochemistry and Molecular Biology**

B. Sc. (Hons) 4<sup>th</sup> Year 1<sup>st</sup> Semester: Midterm-III

Course No. : **BMB -422** Course Title: Genomics and Proteomics

Marks-10, Time-1Hour

**1. Match the functions with the databases that deals with -** **10x0.3= 3.0**

i. Gene ii. Bioprojects.iii. GRC iv. dbSNP/v. Genbank yi. OMIM yji. PubMed yiii. Bookself ix. CDD x. dbEST

- a. A collection of genomics, functional genomics and genetics studies and links to their resulting database
- b. A collection of biomedical books
- c. A collection sequence alignment and profiles representing protein domains conserves in evolution
- d. Includes single nucleotide variation, microsatellites and small scale insertion and deletion
- e. NIH genetic sequence database
- f. Contains short single pass reads of transcripts sequences
- g. Maintains responsibility for the human and mouse references genome
- h. Database of genes focusing on genome that have been completely sequenced
- i. A database of human genes and genetic disorder
- j. A database citations and abstracts for biomedical literature

**2. Write down the full name of the acronym-** **10x0.2=2.0**

a. OMIM b. NCBI iii. EST iv. SNP v. GRC vi. BLAST vii. EMBL viii. STRING IX. PDB X. SIB

**3. Write the functions of the following tools-** **5x0.3=1.5**

- a. Nucleotide blast
- b. Protein blast
- c. blastx
- d. tblastn
- e. tblastx

**4. Briefly write down the functions of the following database (any three)** **3x0.5=1.5**

- a. STRING
- b. I-tasser
- c. PDB
- d. Cytoscape

**5. Explain the statements-** **2x1.0=2.0**

- a. 2-D gel electrophoresis provides benefits over traditional electrophoresis
- b. The application of proteomics is immense and emerging