

**3478 (N) (CV)****B.Sc. (Biotechnology) III<sup>rd</sup> Year****Examination, June- 2020****TRANSCRIPTOMICS AND METABOLOMICS****[B-306 (Old) & B-310 (New)]****(B.Sc. Biotech.)***Time : 2 Hours ]**[Maximum Marks : 100*

**Note :** Attempt **four** questions in detail. Each question carries equal marks.

- 1/ What are ESTs? How there ESTs are constructed? Discuss the various limitations of EST Data.
- 2/ What is Transcript profiling? Discuss the methods available for transcript profiling in detail.
3. Describe in detail construction of transcript maps and functional maps.

**3478(N) (CV)/1**

- 4/ Write detailed notes on the following :
  - (i) ESTs contigs and unigen sets.
  - (ii) MPSS

- 5/ Write Biosynthesis of -

- (i) Carotenoids
- (ii) Alkanoids

6. Write short notes on any **two** of the following :

- (i) FANCY
- (ii) Transcriptome
- (iii) BLAST

- 7/ Write in detail about metabolic control analysis (MCA) and metabolic engineering.

8. Write detailed notes on the following:

- (i) Insertional mutagenesis
- (ii) Metabolic engineering for PHAs.

- 9/ How the metabolic flow is redirected with the following problems :

- (i) By the activity of rate limiting

**3478(N) (CV)/2**

enzyme

- (ii) By alteration in protein processing pathway.

~~10.~~ Write detailed notes on the following :

- (i) Network Rigidity
- (ii) Desensitization feedback Inhibition.