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**NEPNY—22—2023**

**FACULTY OF SCIENCE**

**M.Sc. (NEP) (First Year) (First Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2023**

**BIOTECHNOLOGY**

Paper SBTTC-402

(Microbiology and Virology)

**(Friday, 22-12-2023)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—80*

*N.B. :—* (i) Question No. 1 is compulsory.

(ii) Of the remaining, attempt any *three* questions.

(iii) Draw neat and labelled diagram wherever necessary.

1. Write brief notes on the following : 20

(a) Cyanobacteria

(b) Ribosomal RNA sequencing

(c) Continuous culture

(d) TMV.

2. (a) Explain controversy over spontaneous generation. 10

(b) Describe Hyperthermophilic bacteria. 10

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3. (a) Define Sterilization ? Describe in detail physical and chemical methods of sterilization. 10
- (b) Explain types of culture media. 10
4. (a) Define growth ? Derive mathematical expression of growth. 10
- (b) Explain factors affecting on growth. 10
5. (a) Describe in detail ICNV (ICTV) classification of viruses. 10
- (b) Describe pathogenesis of Retrovirus. 10
6. Write brief notes on the following : 20
- (a) Lactic acid and propionic acid bacteria
- (b) FAME
- (c) Measurement of growth
- (d) Lambda phage.

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