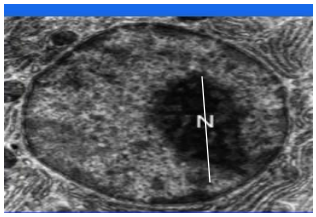
MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

III SEMESTER B. TECH
END SEMESTER EXAMINATION - JANUARY 2022
SUBJECT: INDUSTRIAL MICROBIOLOGY (BIO 2155)
REVISED CREDIT SYSTEM
PARTB

Time: 2:20-3:45 PM (75+10) Minutes **MAX. MARKS: 20**

Note: Answer ALL the questions.

	Q 1-2 CARRY 10 MARKS EACH	
Q1A	In one case study, a lambda phage got integrated in the bacterial genome it infected. What is this phage called in this phase. Due to a stress induced, the cells of the bacteria started to lyse. Give one stress inducing component. With a help of **a neat diagram only**depict the type of transduction event it would result in	1+1+2
Q1B	In an *E.coli*, the upper branch of the ETC got activated. With the help of a neat diagram only depict the condition of the life cycle and its impact on the ETC	3
Q1C	In one of the amoeba, a frame shift mutation in the membrane protein led to the plasma membrane being rigid. What would it impact on? In the same amoeba, there was a loss of contractile vacuole. Do you think this amoeba would get affected as a result of this loss?	1.5+1.5
Q2A	In a compound microscope, the tube length was 170 mm, the focal length of the objective was 2cm, the focal length of the eye piece was 4cm. Calculate the following 1. Magnification of the eye piece 2. Magnification of the objective lens 3. Total Magnification 4. Distance of distinct vision	4
Q2B	The total magnification of the nucleus "N" is 10,000X. What is the actual distance between the two poles depicted by the line. 	2
Q2C	In one hypothetical situation, the mushroom got mutated with its spores getting formed in ascus. Depict the life cycle of this mushroom with the help of a **neat diagram only. Also depict the ploidy level of the different structures in this mushroom life cycle**	4