



**WEST BENGAL STATE UNIVERSITY**  
B.Sc. Honours 1st Semester Examination, 2021-22

**MCBACOR01T-MICROBIOLOGY (CC1)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.*

**Question No. 1 is compulsory. Answer any *four* questions from the rest**

1. Answer any *four* questions from the following: 2×4 = 8
- (i) What is SEM?
  - (ii) Differentiate between taxa and strain.
  - (iii) How eukaryotes differ from prokaryotes?
  - (iv) What is heterokaryosis?
  - (v) Name two diseases caused by *Plasmodium*.
  - (vi) What is spontaneous generation theory?
  - (vii) What is bacterial taxonomy?
2. (a) What is dimorphism in fungi? 2
- (b) Briefly explain the utility of Whittaker's five kingdom classification. 3
- (c) Write short notes on: 1½ × 2 = 3
- (i) Confocal Microscopy
  - (ii) Eubacteria
3. (a) What is fermentation? Give example. 1+1 = 2
- (b) What are the principles of evolutionary chronometers? 3
- (c) What is a protein sequence? Give example. 1+1 = 2
- (d) What are viroids? 1
4. (a) Why 'golden era' of microbiology is considered so? 3
- (b) What is 16S rRNA homology study? 2
- (c) Write a short note on the economical importance of Protozoa. 3

5. (a) Calculate the resolving power of a lens if the wavelength of light is 500 nm and the maximum half angle of the cone of light entering the lens is  $45^\circ$  and the refractive index of the medium is 1.52. 3
- (b) Briefly discuss the diplobiontic life cycle of an algae. 3
- (c) What is Dark Field Microscopy? 2
6. (a) What is Beer Lambert's Law? 2
- (b) Name two pigments found in algae. 2
- (c) Briefly explain the utility of Carl Woese's three kingdom classification system. 3
- (d) What is Species? 1
7. (a) What is Amoeba? 1
- (b) Give the general characteristics of *Leishmania* and *Giardia*. 2+2
- (c) What is the industrial importance of algae and fungi? 2
- (d) What is strain? 1
8. (a) What are fluorochromes? 2
- (b) What are diatoms? 2
- (c) What is genome? 2
- (d) What is a flagella? 2

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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