

SEAT No. \_\_\_\_\_

## Sardar Patel University

M.Sc. Integrated Biotechnology, First Semester Examination

Thursday, 26<sup>th</sup> April, 2018

2:00 p.m. to 5:00 p.m.

PS01CIGB27: Microbiology

Total Marks: 70

[8]

Note:

1. Figures to the right indicate marks.
2. Draw neat and labeled diagram, wherever necessary.

Q.1 Attempt the followings [8]

- i. Cell theory was given by two scientist named \_\_\_\_\_.  
 a) Schleiden & Schwann                      b) Schwann & Hook  
 c) Hook & Leuwenhoek                      d) Leuwenhoek & Brown
- ii. E. H. Haeckel gave \_\_\_\_\_ kingdom classification of the living world.  
 a) Three      b) Four                      c) Five                      d) Six
- iii. Chlamydiae are \_\_\_\_\_ coccoid bacteria.  
 a) Motile      b) Nonmotile                      c) Both a & b      d) None
- iv. What is the clinical term for bacteria multiplying in the blood?  
 a) Fungemia                                      b) Viremia  
 c) Septicemia                                      d) Bacteremia
- v. \_\_\_\_\_ established decisively the existence of bacterial viruses.  
 a) d'Herelle                                      b) Twort  
 c) Loeffler                                      d) Ellerman
- vi. \_\_\_\_\_ is an example of coliphage.  
 a) T3                      b) M13                      c) HIV                      d) TMV
- vii. G + C content present in the genome of Rickettsia is \_\_\_\_\_.  
 a) 29-33%      b) 33-37%                      c) 37-41%                      d) 41-45%
- viii. Who invented Electron Microscope?  
 a) Knoll                      b) Ruska                      c) Both a & b      d) None

Q.2 Write short notes on any seven: [14]

- i. Give contribution of Joseph Lister.
- ii. Write contribution of Antony von Leuwenhoek
- iii. Who coined the term bacteriophage?
- iv. Explain three kingdom concept in short.
- v. Where are algae found?
- vi. What are temperate phages? Give its suitable example.
- vii. Define eubacteria and archaebacteria.
- viii. What are extremophiles? Give suitable example.

[P.T.O.]

- ix. Spikes are present in viruses. Give another name for it.
- Q.3 A List the characteristics common to all biological systems. [6]  
B Mention the contributions of Louis Pasteur in the field of microbiology. [6]
- OR**
- B Give detailed account on Koch's Postulates. [6]
- Q.4 A Discuss the differences between prokaryotic and eukaryotic cells. [6]  
B Elaborate on Whittaker's five kingdom concept. [6]
- OR**
- B Explain Virus, Viroid and Prion with suitable example. [6]
- Q.5 A How are viruses similar to cellular organisms? How do they differ? [6]  
B Explain lytic cycle with labeled diagram. [6]
- OR**
- B Write a note on Poliovirus. [6]
- Q.6 A Briefly describe the major subdisciplines in microbiology. [6]  
B Give the major characteristics of the phylum *Chlamydiae*. What are elementary and reticulate bodies? [6]
- OR**
- B What morphological feature distinguishes the mycoplasma? In what class are they found? Why have they been placed with the low G + C gram positive bacteria? [6]

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