Seat No:_____ **Enrollment No:_____**

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

B.Sc., Summer 2017-18 Examination

Semester: 2 **Date: 21-05-2018**
Subject Code: 11101151 **Time: 02:00PM to 04:30PM**
Subject Name: Principles of Microbiology **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1. A) Essay type (4x2) (Each of 04 marks) **(08)**
(a) Draw a typical bacterial growth curve and label the various phases with detail explanation of each phase.
(b) Write a short note on Pasteur's contribution in the field of Microbiology.

Q.1. B) Answer the following questions (Any two)
(a) Brief note (2x2) (Each of 02 marks) **(04)**
1. Define halophile and thermophile
2. Define facultative anaerobe and acidophile

(b) Short note on Koch's postulates. **(04)**
(c) Short note on contribution of scientists on Controversy over Spontaneous generation **(04)**

Q.2. A) Answer the following questions.
(a) Brief note (Each of 02 marks) **(04)**
1. What is Pasteurization?
2. Define attenuated vaccine

(b) Distinguish between prototrophs and chemotrophs **(04)**

Q.2. B) Answer the following questions (Any two)
(a) Multiple choice questions (Each of 01 marks) **(03)**
1. The cocci which forms a bunch and irregular pattern are
   A. *Staphylococci* *B. diplococci*
   C. Tetracocci *D. Streptococci*
2. _____ discovered the phenomenon of phagocytosis
   A. Metchinkoff B. Joseph Lister
   C. Alexander Flamming D. Paul Ehrlich
3. The growth is normally expressed as _____ in turbidimetric measurement
   A. cells per ml B. cfu/ml
   C. optical density D. mg N_2 /ml

(b) Short note on structure of Eubacteria. **(03)**
(c) Short note on common ingredients of culture medium **(03)**

Q.3. A) Essay type (4x2) (Each of 04 marks) **(08)**
(a) Short note on types of media with examples
(b) Describe any two methods for the cultivation of anaerobic bacteria

Q.3. B) Answer the following questions (Any two)
(a) Brief note (2x2) (Each of 02 marks) **(04)**
1. Define generation time.
2. Define Chemolithoautotrophs

(b) Explain measurement of microbial growth by various methods **(04)**
(c) Short note on bacteriological filters or membrane filters **(04)**

Q.4. A) Answer the following questions.
(a) Brief note (2x2) (Each of 02 marks) **(04)**
1. Define Sterilization and Disinfection
2. Define Bacteriostatic and bacteriocidal agent

(b) Short note on modes of reproduction in bacteria in detail. **(04)**

Q.4. B) Answer the following questions (Any two)

(a) Multiple choice questions. (Each of 01 marks) **(03)**

1. Abiogenesis refers to the

   A. spontaneous generation of organisms from nonliving matter

   B. development of life forms from preexisting life forms

   C. development of aseptic technique

   D. germ theory of disease

2. _____discovered penicillin?

   A. Alexander Fleming

   B. Paul Enrlich

   C. Edward Jenner

   D. Ignaz Semmelweis

3. _____discovered differential staining of bacteria, gram stain

   A. Louis Pasteur

   B. Metchnikof

   C. Alexander Fleming

   D. Hans christian gram

(b) Short note on synchronous growth **(03)**

(c) Short note on any two physical agents for the control of microorganisms **(03)**