

Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY

Faculty of Agriculture

B. Tech (Dairy Technology) winter- 2019-20 Examination

Semester: 1

Subject code: 20104111

Subject Name: Fundamentals of Microbiology

Date: 26/11/2019

Time: 10:30am to 12:30pm

Total Marks: 50

Instruction:

1. All question 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) Fill in the blanks (Each of 0.5 marks) (05)

- i) _____ is recognized as father of Antiseptic surgery.
- ii) _____ is the causative for Pneumonia.
- iii) _____ is father of chemotherapy.
- iv) _____ is optimum temperature for incubation of psychrophilic bacteria.
- v) Scientist who developed staining methods _____?
- vi) A specific _____ factor helps RNA Polymerase bind to late promoters and transcribe late.
- vii) The Cocci in pair also called as _____.
- viii) Microcapsule are composed of _____.
- ix) _____ mostly found in Cell wall in the bacterial spp.
- x) The location where the bacterial chromosome concentrates is called _____.

Q.1. B) Multiple choice Question (Each of 0.5 marks) (10)

- i) Cocci generally appeared in grapes like bunches or clusters are called as
a) Streptococci b) Diplococci c) Teracocci d) Staphylococci
- ii) The cell wall of many gram positive bacteria can be easily destroyed by the enzymes known as.....
a) Lipase b) Lysozyme c) Pectinase d) Peroxidase
- iii) A single polar flagella is known as.....
a) Monotrichous b) Iophotrichous c) Amphitrichous
d) None of these
- iv) Which of the following structure is / are external to cell wall?
a) Flagella b) stalks c) sheath d) all of these
- v) Which of the following does not content protein?
a) Pili b) flagellum c) Lipoteichoic acid d) Porin
- vi) Gram positive bacteria, responsible for food poisoning are
a) Mycoplasmas b) Pseudomonas c) Clostridia d) All of these
- vii) Gram negative bacteria is / are.....
a) Escherichia b) Clostridia c) Staphylococci d) All of these

- viii) The physical nature of genomes is studied under.....
- a) Structural genomics b) Comparative genomics c) Proteo genomics
d) Functional genomics
- ix) The organisms which obtained their energy from chemicals are designed as.....
- a) Prototroph b) Chemotroph c) Organotroph d) Autotroph
- x) The cell reproduction in bacteria may occur by.....
- a) Binary fission b) Budding c) Fragmentation d) All of these
- xi) During exponential growth, the growth rate is.....
- a) number of generation per unit time
b) Reciprocal of generation time
c) Both (a) and (b) d) None of these
- xii) Genetic variation are.....
- a) Temporary b) Influenced by the environment
c) Stable d) Not Heritable
- xiii) Soil bacteria, as a group, are responsible for.....
- a) Nitrogen oxidation b) Sulfur oxidation c) Nitrogen fixation
d) All of these
- xiv) Population of algae in soil is _____ that of either bacteria or fungi.
- a) Generally smaller than b) Generally Greater than c) Equal to
d) None of these
- xv) The fruiting body of mushroom is called_____.
- a) Sorocarps b) Basidocarps c) Ascocarps
d) Plasmidiocarps
- xvi) The term mycelium and hyphae are associated with.....
- a) Algae b) Fungi c) Protozoa d) Viruses
- xvii) Chemically an antigen may be.....
- a) Lipid b) Protein c) Polysaccharides d) All of these
- xviii) Natural killer cells are involved in
- a) Tumor rejection b) Allograft rejection
c) Non specific killing of virus transformed target cell d) All of these
- xix) Which of following is a substitute for crystals violet used in gram staining procedure?
- a) Methylene blue b) Bromocresol green c) Safranin
d) Phenolphthalene
- xx) What is the colour of gram positive bacteria on a gram staining?
- a) Purple b) Pink c) Colourless d) Green

Q. 2. A) Define the following (Any five out of seven)

(05)

1. Microscopy
2. Autotroph
3. Disease
4. Bacteria

5. Microbial genetics
6. Ecology
7. Transcription

Q. 2. B) Answer the following (Any five out of seven) (05)

1. Enlist any four microorganisms found in soil.
2. Enlist any four name of gram positive organisms.
3. What do you mean by lag phase?
4. Classification of bacteriophages.
5. State importance algae in dairy industry.
6. Write in short note on bacteriostatic?
7. Enlist of various parts of microscope.

Q.3. Write short notes (Any five out of six) (10)

1. Microbial classification
2. Bacterial growth curve
3. Microflora of air
4. Basic concept of immunology
5. Microbial commensalism
6. Agriculture Microbiology

Q.4 Long questions (any three out of four) (15)

1. Discuss in detail factor affecting growth of microorganism.
2. Explain in brief history and scope of microbiology.
3. Discuss in detail direct and indirect method of measuring of bacterial growth.
4. Differentiate between prokaryotic and eukaryotic microorganisms.