Seat No: _____ Enrollment No:_____

PARUL UNIVERSITY

Faculty of Agriculture

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

Semester: 2 **Date 14/12/2019**

Subject code : 20104154 **Time: 10:30 am to 12:30 pm**

Subject Name: Fundamentals of Microbiology **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) **(5)**

i) _____ is recognized as father of Microbiology

ii) _____ is the causative for tuberculosis

iii) _____ is temperature is used in moist heat sterilization at $15lb^2$per inch.

iv) _____ is optimum temperature for incubation of mesophilic bacteria

v) _____is used as moderant in Gram's staining

vi) _____ is optimum pH for PDA

vii) _____is also known as cold sterilization

viii) _____ n-base is not present in RNA

ix) _____ is not present in prokaryotes

x) _____is irreversible damage to bacterial cell.

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

1. The Gram positive bacteria are having high…….. content in Cell wall
   a) Carbohydrates b) protein c) lipids d) None of the above
2. Is caused by Ricketts
   a) Scarlet fever b) Q fever c) Whooping Cough d)None of the above
3. Who discovered Antibiotics?
   a) Fleming Alexander b) Luis Pasture c) Robert Koch d)None of the above
4. What is an optimum Temperature range for Thermophillic Bacteria
   a) 25-40˚C b) 07-25˚C c) 40-55˚C d) None of the above
5. Which is the Secondary stain used in gram's staining
   a) Crystal violet b) Safranin c) Methylene blue d) None of the above
6. Is act as antibodies
   a) Albumin b) globulin c) lactoferrin d) None of the above
7. Is not a Virus
   a) *Coxiella burnettii* b) Poliomyelitis c) Influenza d) Bacteriophage
8. ,,,,,,,,,,,is not Ggram positive anaerobic bacteria
   a) *Staphylococcus* b) *Streptococcus* c) *Bacillus* d) *Shigella*
9. Is natural Passive Immunity
   a) Vaccination b) Infection caused Immunity
   c) mother to fetus transferred immunity d) none of the above

10. …….is acid fast bacteria.

a) *Yersinia pestis* b) *Yersinia enterocolitica* c) *Mycobacterium leprae* d) *Bacterium lactis*

11. The major contributions of Louis Pasteur to the field of microbiology does NOT include

a) Swan's neck experiment to disapprove spontaneous generation b) Pasteurization
c) Fermentation d) Microscope

12. Who is known as father of Immunology?

a) Edward Anthony Jenner b) Louis Pasteur
c) Robert Koch d) Joseph Lister

13. Which out of the following organisms causes gas gangrene

a) *Clostridium perfringenes* b) *Clostridium botulinum*
c) *Clostridium tyrobutyricum* d) *Clostridium tetani*

14. Low-power, high-dry, and oil immersion are all types of

a) Ocular lens b) Objective lens
c) Condenser lens d) Tube lens

15. Which microscopic techniques is best suited for observation of living unstained Microorganisms?

a. Bright field microscopy b. Dark field microscopy
c. Phase contrast microscopy d. Electron microscopy

16. Oil immersion (wet mount) is used with objective of

a. 10X b. 40X
c. 60X d. 100X

17. Hanging drop method is used for

a. Observing live cells b. Observing morphology
c. Observing bacterial motility d. Measuring the cell size

18. Which type of slide is used for hanging drop method?

a. Normal glass slide b. Convex slide
c. Haemocytometer d. Concave slide

19. Which is an example of negative stain

a. Methylene blue b. Crystal violet
c. Nigrosin d. Malachite green

20. The arrangement of organisms into groups or taxa is called

a. Identification b. Classification
c. Nomenclature d. Characterization

Q. 2. A) Define the following (Any five out of seven) **(5)**

1. Bacteriophage
2. Prokaryotes
3. Photosynthesis
4. Gene
5. Mycology
6. Aerobes
7. Thermophiles

Q. 2. B) Answer the following (Any five out of seven) **(5)**

1. State name of scientist who illustrated double helix structure of DNA,
2. State the name of any two pathogens ,
3. What do you mean by Stationary phase?
4. State the mechanism of Moist heat sterilization used to kill the microorganisms.
5. State importance of staining.
6. State of Ribosome present in Prokaryote,
7. State the part of microscopy which control light,

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

1. Growth Factors.
2. Compound Microscope.
3. Theory of Biogenesis.
4. Growth phase.
5. Sterilization.
6. Simple staining.

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

1. Describe in brief difference between Prokaryotes and Eukaryotes.
2. Explain in brief Koch Postulates.
3. Sources of contamination in Raw Milk.
4. Describe various methods of classification of organisms.