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

PARUL UNIVERSITY

COLLEGE OF AGRICULTURE

B.Sc.(Hons.) Agriculture Summer 2017 - 18 Examination

Semester: 2 **Date: 17/05/2018**
Subject Code: 20110151 **Time: 10:30 am to 01:00 pm**
Subject Name: Agricultural 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 Do as Directed.

A. Fill in the blanks. (Each of 1.00 marks) **(10)**

1. A text book of Soil Microbiology is written by _____.
2. First microscope was invented by _____.
3._____ investigated pebrine disease of silkworm.
4. _____ first proposed use of agar in culture media.
5._____ developed Petri dish used for solid culture media.
6. Melting point of agar is _____ ºC.
7. Melting point of gelatine is _____ ºC.
8._____ discovered Penicillin from fungus *Penicillium notatum*.
9._____, _____ and _____ received Nobel Prize for the discovery of penicillin.
10._____ discovered Polymerase Chain Reaction to amplify DNA *in vitro.*

B. Multiple choice type questions. (Each of 1.00 mark) **(10)**

1. *Clostridium* is a type of _____ nitrogen fixer.
   a) Comma shape c) G. negative
   b) Free living d)G. positive
2 An example of aerobic free living nitrogen fixer is _____.
   a)Rhizobium c) Azotobacter
   b)PSB d)Non of above
3 An example of anaerobic free living nitrogen fixer is _____.
   a) Vibrio c) Bacillus
   b) Clostridium d) Psudomonas
4 *Azospirillium* is a type of _____ nitrogen fixer.
   a) Associative symbiotic c) N fixer
   b)P fixer d) Non of above
5 An example of associative symbiotic nitrogen fixer is _____.
   a) Azospirillium c) Phosphate
   b)Potash d) Non of above
6 *Rhizobium* is a type of _____ nitrogen fixer.
   a)non- symbiotic c) Symbiotic
   b)Free living d) Associated
7 *Bradyrhizobium* is a type of _____ nitrogen fixer.
   a)non-symbiotic c) Symbiotic
   b)Free living d) Non of above
8 *Anabaena azollae* is a type of _____ nitrogen fixer.
   a) Symbiotic c) non symbiotic
   b)Associated d) Non of above
9_____ discovered Streptomycin.
   a) Watsan crick c) SA Waksman
   b) Robert koch d) Louis pasteur
10 *Nostoc* is a genera of_____.
   a) Azolla c) blue green algae
   b) bacteria d) All of above

Q.2 Do as Directed.

A. Define the following. (Any five) **(05)**

1. Microbiology
2. Pasteurization
3. Fungi
4. Bacteria
5. Antibody
6. Antibiotics
7. Antitoxin

B. Answer the following. (Any Five) **(05)**

1. Explain mechanism of bt cotton on bollworms.
2. Explain method of preparation and application of NPV.
3. Give methods of food preservation.
4. Give factors influencing activities of soil microorganisms.
5. Give advantages of biopesticides.
6. Enlist symbiotic nitrogen fixers.
7. Define: Soil microbiology.

Q.3 Write short notes. (Any five) **(15)**

1. Explain: Biopesticides.
2. Explain: Food spoilage.
3. Explain stages of root nodulation process.
4. Explain: Food preservation.
5. Enlist factors influencing activities of soil microorganisms.
6. Explain: Reddi's experiment on spontaneous generation theory.

Q.4 Attempt any Three/Long Questions/Example **(15)**

1.Draw figure of Prokaryotic cell and explain.
2.Explain importance of microbiology in agriculture.
3.Explain bio pesticide.
4.Explain bioFertilizer.