Seat No:_____

PARUL UNIVERSITY COLLEGE OF AGRICULTURE

Enrollment No:_____

COLLEGE OF AGRICULTURE B.Sc.(Hons.) Agriculture, Winter 2017 - 18 Examination

Semester: 2 Subject Code: 20110151 Subject Name: Agricultural Microbiology	Date: 01/01/2018 Time: 10:30 am to 1:00 pm 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.	(10)
A. FIII III the blanks. (Each of 0.50 marks)	n hy
2. First microscope was invented by	n by
2. First inicroscope was invented by	
3 investigated pedrifie dise	
4 first proposed use of agar	in culture media.
5 developed Petri dish u	sed for solid culture media.
6. Melting point of agar is %	2.
7. Melting point of gelatine is	_°C.
8 discovered Penici	llin from fungus <i>Penicillium notatum</i> .
9 received Nobel Prize for the d	iscovery of penicillin.
10 discovered Polyme	rase Chain Reaction to amplify DNA in vitro.
11 discovered Prions.	
12 is known as fa	ther of microbiology.
13 established the "Divis	sion of Microbiology" at IARI, New Delhi.
14 initiated research	on Rhizobium bioinoculant and Nuclear
polyhedrosis virus (NPV) for the first time in 15. Meaning of word "Mycorrhiza"	India at GAU, Anand Campus, Anand.
16. isolated the agents of	symbiotic (1888) and non-symbiotic aerobic
(1901) nitrogen fixation	
17 is known as intermed	iate group between bacteria and fungi
18 Biological nitrogen fixation is a	nice group between bucterin and rungi.
10 Azotobactaris a type of	process.
19. A even charterium is a type of If	nitogen fixer
20. A Cyanobacterium is a type of	$\underline{\qquad} \text{Introgen fixer.} \tag{10}$
1. Clostridium is a type of	trogen fiver
a) Comma shape	a) G pagativa
a) Comma snape b) Free living	d)G positive
0) Fice fiving	d) d. positive
2. All example of actobic free fiving introgen	a) Azotohootor
a)KIIIZOOIUIII b)DSD	d)Nep of show
U)FSD	u)Noll of above
5. All example of anaerooic free fiving introg	
a) v 10110 b) Clostridium	d) Deudomonas
4 Azosnirillium is a type of	d) i sudollollas
4. Azospiritium is a type of Ii	a) N fiver
a) Associative symptotic	d) Non of above
U)F IIXEI 5 An ayampla of associative symbiotic nitrogan	d) Non of above
a) A zospirillium	a) Phosphata
a) Azospirinum h)Potash	d) Non of above
6 Rhizohium is a type of	nitrogen fiver
a)non- symbiotic	c) Symbiotic
h)Free living	d) Associated
7 Bradyrhizabium is a type of	nitrogen fiver
1. Drawyrni 2001ain 18 a type 01	

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 Strep	ptomycin.	
a) Watsan crick	c) SA Waksman	
b) Robert koch	d) Louis pasteur	
10. <i>Nostoc</i> is a genera of	·	
a) Azolla	c) blue green algae	
b) bacteria	d) All of above	
11. Formation of soft spots or soft brown	spots on fruits and vegetables is known as	
a) Environment pollution	c). Food spoilage	
b) Scarotia rot	d) Non of above	
12. Reasons of food spoilage is		
a) High temperature	c). Microbes, enzymes, insects	
b) Due to open air condition	d) Birds	
13. Slow down or prevention of the action of	the agents of spoilage is known as	
a).Food preservation	c) food spoilage	
b) Food respiration	d) food poison	
14. Blanching is a type of	preservation method.	
a) Hot	c) chilled	
b) Thermal processing	d) All of above	
15. A substance which is capable of inhi	biting, retarding or arresting the growth of	
microorganisms is known as		
a) Storage	c) Stationary	
b) Inhibition	d) Preservative	
16. Bt cotton releases	toxin in the midgut of larvae.	
a) Beta toxin	c) antioxident	
b) delta-endotoxin	d) Non of above	
17 Bt bacteria of bt-cotton activates only in	nH medium	
a) Alkaline	pri meatani.	
b)Acidic	d) Non of above	
18 Genes of hacteria were ins	erted into desi cotton variety for ht cotton	
a) Bacillus clausii	c) Racillus numilus	
b) Bacillus lichaniformis	d) Bacillus thuringenesis	
10 As a result of offect of bacterial toxin on 1	d) Ductitus inutingenesis	
a) Sonticomia	ai vac, it uics uuc to	
a) sepucenna b) toxomia	d) Non of above	
20 analiss of Decideration	is used as a big control aconts of soil horror	
20 species of <i>Pseudomonas</i>	is used as a dio-control agents of soil borne	
plant patnogens.		
a) putida	c) Fluorescens	
b) syringae	d) Non of above	(0 -
. Give the sentence true or false. (Each of 0.50 m	ark)	(05)
1. A textbook of soil microbiology is written b	by TVS Prasad	
2. First microscope was invented by Antony V	an Leeuwenhoek.	
3. Tyndallization means fractional sterilization	1.	
4. Pebrine disease of silk worm is caused by vi	irus.	
5. Koch's postulates were given by Robert Ho	ok.	
6. Gelatin melts at 16 °C temperature.		
7. Frau Hesse proposed use of agar in culture t	media.	
8 Microorganisms that have been rendered thi	in or made less virulent are known as	
attenuated microorganisms	in or mude ress virtuent are known as	
0 Louis Destaur discovered Denicillin		
7. LOUIS I ASICUI UISCOVEIEU FEIIICIIIII. 10. Standard tomporature of Destauringting and	hand hand hand hand hand hand hand hand	
10. Standard temperature of Pasteurization pro	DCESS 15 04.8 し.	

Q.2	Q.2 Do as Directed.				
А.	Match group A with group B. (Each of 0.50	marks)	(05)		
	Α	В			
	1) Agar	a) Double helix structure of DNA			
	2) Azospirillium	b) Fusarium spp.			
	3) P. fluorescence	c) Symbiotic N ₂ fixer			
	4) Benzoic acid	d) 1 st microscope invented			
	5) B. bassiana	e) PCR			
	6) Sonali Pandey	f) Solidifying agent			
	7) Watson & Crick	g) Text book of microbiology			
	8) Leeuwenhoek	h) Muscadine disease			
	9) Kary Mullis	i) Chemical preservative			
	10) Rhizobium	j) Associative N ₂ fixer			
B.	Define the following. (Any ten)		(05)		
	1. Microbiology				
	2. Pasteurization				
	3. Fungi				
	4. Bacteria				
	5. Antibody				
	6. Antibiotics				
	7. Antitoxin				
	8. Blanching				
	9. Biopesticides				
	10. Immunity				
	11. Food spoilage				
	12. Virulent microbes				
C.	Answer the following. (Any ten)		(10)		
	1. Explain mechanism of bt cotton on bo	llworms.			
	2. Explain method of preparation and app	plication of NPV.			
	3. Give methods of food preservation.				
	4. Give factors influencing activities of s	oil microorganisms.			
	5. Give advantages of biopesticides.				
	6. Enlist symbiotic nitrogen fixers.				
	7. Define: Soil microbiology.				
	8. Give factors affecting root nodulation.				
	9. Enlist important impacts of microbes of	on ecosystem.			
	10. Give importance of microorganisms in	n soil.			
	11. Give types of nitrogen fixing bacteria	with examples.			
	12. Enlist stages of root nodulation proce	SS.			
Q.3	Write short notes. (Any five)		(10)		
	1. Explain: Biopesticides.				
	2. Explain: Food spoilage.				
	3. Explain stages of root nodulation proce	ess.			
	4. Explain: Food preservation.				
	5. Enlist factors influencing activities of s	soil microorganisms.			
	6. Explain: Reddi's experiment on sponta	neous generation theory.			
0.4	Differentiate the following. (Any five)	- •			
£	1. Prokaryotes vs Eukaryotes				
	2. Free living nitrogen fixers vs Symbiotic	e nitrogen fixers			
	3. Food spoilage by microbes vs Food spoilage by insects				
	4. Tyndallisation vs Pasteurization				
	5. Boiling vs Blanching				
	6. Free living nitrogen fixers vs Associativ	ve nitrogen fixers			

7. Gram positive bacteria vs Gram negative bacteria