GIET UNIVERSITY, GUNUPUR – 765022

RS19BSCAG599

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2nd SEMESTER REGULAR EXAMINATIONS, SEPT/OCT 2019-20

Fundamentals of Plant Pathology

PPT-121

Time : 2 Hours Maximum : 50 Marks

(Answer **all** questions of Section – A)

Q.1.Read the statements and state whether True or False. 10×0.5=5

a. The cause of great Bengal famine in the year1943 was due to Blast disease of rice.
b. Pathogenesis is the ability of the pathogen to cause disease.
c. A Virus particle is made up of lipids and peptidoglycans
d. Peptidoglycans are found in major quantities in gram negative bacteria.
e. Toxins are substances of microbial origin which are either toxic or growth inhibitory for bacteria.
f. The major component of fungal cell is Cellulose
g. The difference between virus and viroids is the absence of nucleic acids in viroid.
h. Bacteria reproduce mostly by sexual methods
i. Trans-ovarian transmission is observed in non-persistent viruses.
j. Phytoplsma are sensitive to tetracycline group of antibiotics

Q.2 Choose the correct answer from given choices 10 × 0.5=5

i. A fruiting structure consisting of a cluster of conidiophores woven together on a mass of hyphae
a) Pycnidium b) Perithecium c) Cleistothecium d) Sporodochium

ii. A cup shaped fruiting body of rust fungus known as
a) Aecium b) Pycnidium c) Acervulus d) Apothecium

iii) The ooze test in plants is a method to detect
a) Fungi b) Bacteria c) Virus d) Algae

iv) An irregular pattern or indistinct light and dark areas
a) Mosaic b) Mottle c) Necrotic d) Molt

v) One flagellum at each pole of Bacterial cell is called
a) Monotrichus b) Lophotrichus c) Amphitrichus d) Peritrichus

vi)The first plant virus disease to be discovered was
a) Potato leaf curl virus b) Rice Tungro virus c) Tobacco mosaic virus d) Peach leaf curl virus

vii)The relationship of dependency of one organism for food on its host is called
a) Obligate parasite b) Biotrophs iii) Parasitism iv) Propagules

viii)Name the mycotoxin produced by *Aspergillus flavus* and by some other fungi
a) Vivotoxin b) Aspergillin c) Victorin d) Aflatoxin

ix) Sex factor in bacteria in is known as
a) Episome b) Chromosome c) Plasmid d) Pilus

x) The sexual stage in the life cycle of a fungus is called
a) Teleomorph b) Anamorph c) Autoecius d) Heteroecius

Q.3. Match column B with appropriate answer from column A [5]

A	B	
i. Late blight of potato	1.Blitox	
ii. Bacterial blight of rice	2.Biocontrol agent	
iii. Systemic fungicide	3.Autoiceous rust	
iv. Copper fungicide	4.Irrish famine	
v. W M Stanley	5.Vitavax	
vi. Millardet	6.*Xanthomonas oryzae* pv. *oryzae*	
vii. *Trichoderma harzianum*	7.Sulphur fungicide	
viii. *Melampsora lini*	8.Dithane z-78	
ix. Powdery mildew	9.Crystallisation TMV particles	
x. Dithiocarbamate fungicide	10.Bordeaux mixture	

Q.4. Fill in the blank spaces with suitable answer 10×0.5=5

a. Basal body of flagella is anchored in the _____ of bacterial cell.
b. Virulence of *Pseudomonas solanacearum* causing wilt disease in solanaceous crop is due to its _____.
c. The cell wall of *Lactobacillus* is rigid due to presence of greater amount of _____.
d. Sulphur bacteria having chlorophyll mostly used either $H_2S/S/NH_3$ as electron source are grouped under _____.
e. Sporangiospores and conidia are formed in _____ group of bacteria.
f. The process of measuring bacterial cells with the help of calibrated slides and microscope is called as _____.
g. Viruses that attack fungus are called as _____.
h. The DNA fragment for transformation is acquired from _____.
i. ---------- is regarded as Father of plant pathology.
j. Nucleic Acids in virus are protected from unfavorable extra cellular environment by _____.

SECTION – B

(Attempt any five questions. Each question carries equal marks) 5x6=30

Q. 5. State the methods and describe the mechanism of sexual reproduction in fungi.

Q. 6. Discuss in brief the chemical composition, shape and properties of plant viruses used to differentiate from other microorganisms.

Q.7. State the methods of genetic transformation in bacteria and describe in detail the mechanism of transduction.

Q. 8. Classify bacteria on the basis of morphology and draw a diagram of typical bacterial cell and label it.

Q.9. Enlist the methods of plant disease management and describe mechanism biological control.

Q.10. Describe insect transmission of viruses with suitable examples.