B.Sc. (Honours) Agriculture Semester-III Examination, 2018

Course No: PPC-211 (Fundamentals of Plant Pathology)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : Two Hours **Full marks : 50**

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)

Time : 30 minutes **Full marks : 20**

Note: 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. **State True (T) or False (F) in respect the following statements (any five):** 0.5×5=2.5

(i) Fungal Pathogen penetrates the plant epidermis by formation of appresoria. ☐

(ii) Main component of cuticle is cutin polymers. ☐

(iii) Facultative parasite is a parasite with saprophytic ability. ☐

(iv) Crozier formation is found in oomycetes. ☐

(v) Eradication is a principle of plant disease management which includes quarantine ☐

(vi) Degradation of chlorophyll is termed as chlorosis ☐

(vii) Vivotoxins are the toxins which are considered to be the primary determinant of the disease. ☐

2. **Fill up the blanks with most appropriate words (*any ten*):** 0.5×10=5.0

(i) The obligate parasitic fungi absorb their nutrients from the host cells through _____

(ii) White rust of crucifer is caused by _____.

(iii) The principle involved in alteration of date of sowing is _____.

(iv) Name of restingspore of fungus is _____.

(v) Annual recurrence of rusts of wheat in India was studied by _____.

(vi) Mycorrhiza is a term to indiate fungus association with _____.

(vii) The first reported plant disease of bacterial etiology is _____.

(viii) *Erwinia* has _____ type of flagellation.

(ix) Bacteria multiplies asexually through _____.

(x) Vertical resistance is controlled by _____.

(xi) The Father of Modern Plant Pathology is _____.

(xii) One nematode-bacteria disease complex of wheat is _____.

P.T.O.

3. **Tick (✓) the correct answer (*any five*):** 0.5×5=2.5

(i) A disease development in may individuals of a population widely but periodically in a destructive from is called – (a) Endemic (b) Sporadic (c) Epidemic (d) Pandemic

(ii) Horizontal resistance is best controlled by – (a) One or few genes (b) Many genes (c) Both (a) and (b) (d) None of the above

(iii) The mystery of khaira disease of rice was solved by – (a) RP Purakayastha (b) MP Srivastava (c) YL Nene (d) TS Thind

(iv) Who of the following contributed valuable information delineating and cataloguing physiological races of the pathogen – (a)EC Stakman (b) RN Goodman (c) JG Horsfall (d) DF Bateman

(v) Appressoria are usually produced by those fungi that penetrates their host plants – (a) Through stomata (b) Through Wounds (c) Directly (d) Through hydathodes

4. Give brief account of the following (**any five**) : 2×5=10

i) Pathogenicity

ii) Dependant transmission in plant virus.

iii) Phytoalexins

iv) Plant virus classification on the basis of Nucleic acid.

v) Domestic quarantine

vi) Alternate host

vii) Physical methods of disease management.

B.Sc. (Honours) Agriculture Examination, 2018

Semester-III

Course No: PPC-211

(Fundamentals of Plant Pathology)

Part - II

(Descriptive Type)

Time : 90 Minutes **Full marks : 30**

Questions are of value as indicated in the margin

Answer *any three* questions

5. Write short notes on (**any five**) : 2×5=10
   i) Flagellate Protozoa
   ii) N.A. Cobb
   iii) Dolipore septum
   iv) Mehanisms involved by PGPR in biological control
   v) Pathogen derived resistance through transgenics
   vi) Bacterial conjugation
   vii) Root knot nematode
6. Give a schematic outline of latest classification of fungi. Or Discuss reproduction in fungi. 10
7. Differentiate the following (**any two)** 2×5=10
   i) Exclusion and Eradication ii) Viruses and Viroids
   iii) Phytoplasma and spiroplasma iv) Fungi and Fungus-like organisms
8. Define bacteria. Classify the bacteria according to Bergey's Manual of Systematic Bacteriology. 2+8=10
9. What do you mean by pathogenesis. Write briefly about the role of enzymes and toxins in pathogenesis. 2+4+4=10
