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Roll No. ....

**5024-D**

**M.Sc. (Final) EXAMINATION, 2016**

**BOTANY**

**Paper IV-D**

**(Advanced Plant Pathology)**

**Time allowed : Three Hours**

**Maximum Marks : 100**

**Part A (खण्ड 'अ') [Marks : 20]**

*Answer all questions (50 words each).*

*All questions carry equal marks.*

सभी प्रश्न अनिवार्य हैं । प्रत्येक प्रश्न का उत्तर पचास शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

**Part B (खण्ड 'ब') [Marks : 50]**

*Answer five questions (250 words each),*

*selecting one question from each Unit.*

*All questions carry equal marks.*

प्रत्येक इकाई से एक प्रश्न चुनते हुए, कुल पाँच प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

P.T.O.

**Part C (खण्ड 'स')**

[Marks : 30]

*Answer any two questions (300 words each).*

*All questions carry equal marks.*

कोई दो प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

**Part A**

**Unit I**

1. (i) Differentiate between animate and inanimate pathogens.
- (ii) Differentiate between localized and systemic diseases.

**Unit II**

- (iii) What is antibiosis ? Give example.
- (iv) What are aflatoxins ?

**Unit III**

- (v) Differentiate between axenic and dual culture.

(vi) How are virus free plants obtained ?

#### Unit IV

(vii) Distinguish between rust and smut diseases.

(viii) Name the causal organisms of green ear disease of bajra and white blister disease of sarson.

#### Unit V

(ix) Name *two* antibiotics which are used in plant disease management.

(x) What is phyllody ?

#### Part B

#### Unit I

2. What are different types of insects and mites induced plant galls ?
3. Write contribution of Dr. K. C. Mehta to Indian plant pathology.

## Unit II

4. What is the role of toxins in plant disease development ?
5. Write biological methods for plant disease control.

## Unit III

6. Write a note on physiological specialisation of parasitic fungi.
7. Discuss the role of *two* plant growth regulators in relation to plant pathology.

## Unit IV

8. Describe symptoms, etiology, perpetuation and control measures of "maize blight".
9. Describe symptoms, etiology and control measures of "tikka disease".

### **Unit V**

10. Describe, with suitable examples, the methods for the transmission of viral diseases.
11. Describe symptoms, perpetuation and control measures of one disease caused by phytoplasma.

### **Part C**

#### **Unit I**

12. Describe morphology, anatomy and life cycle of a root knot nematode or a seed gall nematode.

#### **Unit II**

13. Discuss role of monoclonal antibodies and serology in plant disease diagnosis.

#### **Unit III**

14. Write an essay on molecular basis of host parasite interaction with special reference to crown gall pathogen.

#### **Unit IV**

15. Describe symptoms, causal organism, disease cycle and control measures of "sugarcane red rot".

#### **Unit V**

16. Write short notes on the following diseases :

- (a) Tomato leaf curl
- (b) Citrus canker.