DR. PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA
SEMESTER END THEORY EXAMINATION
B.Sc. (Hons.) Agriculture

Semester	:	III (New)	**Academic Year**	:	2020-21
Course No.	:	**PATH-232**	**Title**	:	**Principles of Integrated Disease Management**
Credit	:	2 (1+1)			
Day & Date	:	Wed., 27.01.2021	**Time :** 12.00-13.00	**Total Marks**	: 40

Note :
1. Solve **ANY Four** questions from **SECTION"A"**
2. Solve **ANY Six** questions from **SECTION"B"**
3. All questions from **SECTION"C"** are compulsory.
4. Send the PDF file of answer sheet to the email id of respective course teacher.

SECTION 'A'

(Write the answers in 4-5 sentences only. Each question carries 4 marks)

Q. 1	**How plant diseases play an important role in human life. 4 Marks**
Ans.	1. Plant diseases may limit the kinds of plants and industries in an area. 2. Plant diseases reduce the quantity and quality of plant produce. 3. Plant diseases may make plant or plant produce poisonous to humans and animals. 4. Plant diseases may cause financial losses. 5. The cost of management of plant diseases is a direct loss.
Q. 2	**What do you mean by PRA? What are the different stages of PRA?**
Ans.	**Define PRA. 1 Mark** **Enlist the Stages of PRA. 3 Marks** 1. Initiation. 2. Pest Risk Assessment. Step 1: Pest categorization: Step 2: Assessment of probability of pest entry, establishment and spread: Step 3: Assessment of potential economic consequences resulting from pest entry, establishment and spread: 3. Pest Risk Management.
Q. 3	**Define Diagnosis & Detection? What are the steps involve in diagnosis of plant disease.**
Ans.	**Define:** Diagnosis of plant disease is to identify the disease nature of illness/problem by examination of symptoms. **1 Mark** Detection of plant disease is to determine the causal agent whether living or non living by observation/noticing/recognition. **1 Mark** **Steps involve in diagnosis of plant disease 2 Marks** A simple, 7-step plan for basic plant disease diagnosis follows. Step 1: Identify the affected plant. Step 2: Determine what diseases have been reported on plants being examined. Step 3: Compare the diseased plants healthy growing plants nearby (symptoms or signs). Step 4: Determine the distribution of the disease within a field. Step 5: Review the cropping history of the affected area. Step 6: Examined the roots. Step 7: Inspect all parts of the plant.

Q. 4	**Enlist the Physical and Mechanical methods of plant diseases management.**
Ans.	**Physical methods of plant diseases management:** **2 Marks** i. Hot water treatment, ii. Hot air treatment- a. Aerated steam therapy, b. Moist hot air treatment, iii. Solar heat treatment, iv. Soil Solarization, v. Soil sterilization, vi. Refrigeration, vii. Radiation, viii. Burning, ix. Moisture, x. Use of sound, xi. Use of light trap **Mechanical methods of plant diseases management:** **2 Marks** 1. Hand destruction: Insect, Seeds, Plants. 2. Exclusion by barriers (Physical & Chemical): Bagging the fruits, Trenching around the field, Tin sheets around the base of the trunk, Water as a barrier (water force), Green net/ net house, Use of packaging material, Artificial statue or sound machine or reflected film in the field 3. Use of traps: Pheromone traps, Yellow cards, Traps or cage.
Q. 5	**What are the safety issues taken during handling of pesticides?**
Ans.	Discuss the following points in relation to safety issues taken during handling of pesticides - **4 Marks** 1. The label, 2. Storage and transport, 3. Disposal, 4. General hygiene, 5. Protective clothing (Spraying indoors, Mixing, Impregnation of fabrics, Maintenance), 6. Safe techniques

SECTION "B"

(Write the answers in one sentence only. Each question carries 2 marks)

Q. 6		**Fill in the blanks (Any Six).** **6 X 2 = 12 Marks**
	1)	IPPC stands for **International Plant Protection Convention.**
	2)	**Plant Disease** is any abnormal changes in the physiological processes which disturb the normal activity of plant organ.
	3)	The plant disease responsible for Bengal famine was **Brown spot of rice.**
	4)	When the resistance is uniformly spread against one or few races of a pathogen, then it is called **Vertical Resistance.**
	5)	A cell of plants cultured in special nutrient medium and whole plants regenerated from cultured cells *in vitro* is called **Tissue culture**.
	6)	**Bordeaux paste/Chaubattia paste/Metalaxyl** is mostly used as a tree wound dresser.
	7)	RT-PCR is used for **detection or identification highly sensitive pathogens**.

SECTION "C"

(Choose the correct option. Each question carry 1 mark)

Q.7	**Choose the correct option.** **12 X 1 = 12 Marks**	
1.	Any part of the pathogen that can initiate the infection.	
	c)	**Inoculum**
2.	Mycelium grows on external surface of epidermal cells is an example of _____.	
	b)	**Powdery mildew pathogen**

3.	Leaf whorl application of fungicides is mostly used in _____ crop.	
	d)	**Banana**
4.	_____ is potent biocontrol agent used against most of the soil borne pathogens.	
	a)	***Trichoderma* sp.**
5.	Parasitic habit of an one species upon another plant parasitic species.	
	c)	**Hyperparasitism**
6.	Recommended concentration of Aureofungin for spraying is _____ ppm.	
	b)	**100**
7.	Resistant variety evolved by crossing the susceptible popular variety with resistant wild variety.	
	d)	**Hybridization**
8.	Plant quarantine laws were first enacted in _____.	
	c)	**France**
9.	The technology to isolate particular gene from one organism/plant, insert them into the genome of another organism/plant and make them to express at right time.	
	a)	**Genetic engineering**
10.	The Irish famine is due to _____.	
	b)	**Late blight of Potato**
11.	Pesticides should be packed and labeled according to _____ specifications.	
	d)	**WHO**
12.	The *Rhizoctonia* sp. produced dormant structure namely _____.	
	d)	**Sclerotia**

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