

SECTION A [30 MARKS]
Answer ALL questions from this Section

1. State TRUE or FALSE

[30 MARKS]

- (a) Soybean attracts parasitic wasps that control African bollworm (*Helicoverpa armigera*) and at the same time serves as weed cover
- (b) Sesame is one of the hosts to nematodes that attack cotton and groundnuts
- (c) Nonuniform distribution of seeds is one of the major disadvantages of drill-planting
- (d) Spring wheat is sown in October in regions with temperate climates
- (e) Farm yard manure improves germination by reducing crust and also increases water retention capacity of soils
- (f) Millet is camel of the desert
- (g) Reduced light intensity accelerates flowering and fruiting and decreases boll shedding in cotton
- (h) Land tilling conserves moisture and improves maize productivity
- (i) Sesame is not considered an alternative specialty crop due to its sensitivity to biotic and abiotic stresses
- (j) Sesame is the only field crop with relatively early development
- (k) Ridge-planting is recommended in heavy clay soils under irrigated conditions
- (l) In warmer soils, ridging lowers soil temperature allowing quicker germination and early growth of potato
- (m) Transportation cost is a major disadvantage associated with root and tuber crops
- (n) Paddy field releases ethane
- (o) Maize is a day neutral cereal
- (p) Ridging prevents greening of potato

- (q) Greening of peduncle of wheat is a sign of physiological maturity
- (r) *Oryza japonica* is taller than *Oryza indica*
- (s) Ratooning cannot be practiced in sorghum
- (t) *Sesamum* belongs to the family Pedaliaceae
- (u) Epigeal is when germination of a plant takes places above the ground
- (v) Bread wheat is tetraploid
- (w) Alfalfa is an annual plant
- (x) Green manure is fresh manure
- (y) At lower pH values most field crops can suffer from aluminum and other heavy metal ion deficiency, as well as P or Mo toxicity
- (z) Cyanogenic glucoside is an antinutritional factor in all varieties of cassava
- (aa) Sesame and sorghum originated in East Africa
- (bb) Root rot is a major disease of cassava in Africa
- (cc) Maize originated in Brazil
- (dd) Short height is an idea trait for upland rice because the plants can avoid lodging

SECTION B (40 MARKS)

Answer ANY TWO questions in this section

- 2. Discuss TEN measures to combat diseases and pests of cotton **[20 MARKS]**
- 3a. Describe TEN recommended green manuring practices for field crops **[10 MARKS]**
- 3b. Describe the FIVE phases of growth of potato **[10 MARKS]**
- 4a. Write the classification and centers of origin of the following field crops **[10 MARKS]**

Commented [Ma1]: Consider replacing

No	Common name	Scientific name	Family	Classification	Center of origin
1.	Bread wheat				
2.	Linseed				
3.	Upland cotton				
4.	Soybean				
5.	Sorghum				
6.	Cassava				
7.	Maize				
8.	Irish potato				
9.	Asian rice				
10.	Barley				

4b. Describe the characteristics of the following maize kernels

[10 MARKS]

- (a) Flint Corn (*Zea mays indurata*):
- (b) Pop Corn (*Zea mays everta*):
- (c) Sweet Corn (*Zea mays saccharata*):
- (d) Floor Corn or Soft Corn (*Zea mays amylacea*):
- (e) Waxy Corn (*Zea mays ceretina kulesh*):