QPC: RJ19BSCAG085

Reg. No.										

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GIET UNIVERSITY, GUNUPUR – 765022

B. Sc (AG) (Fourth Semester) Examinations, June – 2021

SST 221 – PRINCIPLES OF SEED TECHNOLOGY

Time: 2 hrs Maximum : 50 Marks

The figures in the right hand margin indicate marks.

PART – A

1. Fill in the blanks: [0.5 x 10 = 5 Marks]

a) The Seeds Act was passed in Indian parliament on the date _____.
b) The size of the submitted sample for GOT in case of vegetatively propagated crops is _____.
c) The minimum isolation distance in a crossing block for hybrid rice seed production is_____.
d) One of the safest and frequently used seed dessicant is _____.
e) The process of emasculation of female parent for hybrid maize seed production is known as _____.
f) Seed rule was implemented / enforced in the year _____.
g) Tag colour for truthfully labeled seed is _____.
h) The peroxidase test is done mainly for _____crop.
i) Genetic purity during grow out test for tomato is _____.
j) The minimum certification standard for germination in hybrid cotton is _____.

2. Define or explain the following terms in one or two sentences: [1 x 5 = 5 Marks]

i) Rouging
ii) Air Cleaner
iii) Seed health
iv) Synchronization of flowering
v) Categories of seed treatment chemicals

3. Write true or false for the following statement: [0.5 x 10 = 5 marks]

a) *Cyperus distalis* is an objectionable weed of rice crop.
b) If the seed moisture content is 18 – 30% , the drying temperature should be 110 F.
c) The minimum isolation distance for certified seed production in maize is 200 m.
d) The moisture content for storage in moisture proof containers for majority of crops is 8%.
e) In air oven method of moisture determination, oilseeds should be dried at a temperature of 103°C for 17 hours.
f) Seed certification agencies are notified under section 5 of the Seeds Act, 1966.

g) The female : male ratio for hybrid seed production of rice is 8:2.
h) In seed physical purity determination, broken seeds are not taken as inert matter.
i) A unit of certification does not exceed ten hectares.
j) The working principle of Boerner divider for sampling of seeds is centripetal force.

4. Match the following: **[0.5 x 10 = 5 Marks]**

GROUP – A			Group - B	
a.	KOH – Bleach Test		i.	Seed borne disease
b.	International Seed Testing Association		ii.	Sunflower
c.	Doak's Method of emasculation		iii.	Use terminal velocity of the grain to separate different fraction
d.	Seed's (Control) Order,1983		iv.	Tetrazolium Test
e.	Ascochyta blight		v.	Sorghum
f.	Cleaning		vi.	Compulsory licensing of seed dealers
g.	Pneumatic seed separator		vii.	Zurich, Switzerland
h.	Bacterial blight of rice		viii.	Cotton
i.	One seeded fruit		ix.	Groundnut
j.	Seed Viability		x.	Removal of lighter material and impurities from the seed lot during processing

PART – B

(Attempt any five questions. Each question carries equal marks) [6 x 5 =30 marks]

5. Describe in brief the factors causing genetic deterioration of seed crops.
6. What do you mean by inbred lines? Why is it important in case of cross - pollinated crops? Briefly explain different types of hybrid in case of maize.
7. What is the need for conducting a grow out test? Explain in brief the process for conducting grow out test.
8. Define seed storage. What are the stages of seeds during storage? How do temperature and moisture/ relative humidity conditions during storage affect the longevity of seed storage?
9. What is seed processing and what are it's objectives? Explain in brief the working and uses of a gravity separator.
10. Define Genetically modified organism (GMO). What are the different detection methods for GMOs in seed lot? Explain in detail the protein based detection methods for GMOs.

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