

**SRM VALLIAMMAI ENGINEERING COLLEGE
(An Autonomous Institution)**

SRM Nagar-Kattankulathur –603203

DEPARTMENT OF AGRICULTURAL ENGINEERING

QUESTIONBANK



VI SEMESTER

1902609 - SEED PROCESSING TECHNOLOGY

Regulation – 2019

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Prepared by

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(An Autonomous Institution)
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DEPARTMENT OF AGRICULTURAL ENGINEERING
QUESTIONBANK

SUBJECT: SEED PROCESSING TECHNOLOGY

SEM/ YEAR: VI/III

UNIT-I: SEED CHARACTERS

Definition and characteristics of seed and how it differs from grain- Propagation of crop plants through true seed and vegetative means- Features of good quality seed Importance of seed in successful crop production- Floral biology: self and cross pollination- Methods of genetic improvement of crop plants such as selection, hybridization, mutation and polyploidy- Seed legislations promulgated in India from 1966 to date and the purpose of each of these legislations.

PART- A

SI.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Define seed.	BT-1	Remembering
2.	Define seed technology.	BT-2	Understanding
3.	Differentiate seed and grain .	BT-1	Remembering
4.	Define vegetative propagation .	BT-2	Understanding
5.	Define pollination .	BT-1	Remembering
6.	What is self pollination.	BT-2	Understanding
7.	What is cross pollination.	BT-2	Understanding
8.	Define hybrid.	BT-1	Remembering
9.	Define variety.	BT-2	Understanding
10.	Define mutation.	BT-1	Applying
11.	Define polyploidy.	BT-1	Remembering
12.	What is seed act .	BT-2	Applying

13.	What is seed rules .	BT-2	Understanding
14.	What is section 5.	BT-1	Remembering
15.	What is genetic purity .	BT-1	Remembering
16.	What is physical purity .	BT-2	Understanding
17.	Define germination.	BT-2	Understanding
18.	What is seed bill 2004.	BT-1	Remembering
19.	What is seed control order.	BT-2	Understanding
20.	Define cleistogamy.	BT-1	Remembering
21.	Define chasmogamy.	BT-1	Remembering
22.	Define xenogamy.	BT-1	Remembering
23.	Define entomophily.	BT-1	Remembering
24.	How many seed testing lab present in India. which one is comes under ISTA accredited lab.	BT-1	Remembering
25.	Expand ISTA,ICAR,IARI,IRRI.	BT-1	Remembering
PART - B			
SL.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Explain about qualities of good seed.	BT-3	Applying
2.	Difference between seed and grain.	BT-3	Applying
3.	Differentiate characteristics of seed and grain.	BT-4	Analysing
4.	Describe mechanisms that involved in self and cross pollination.	BT-3	Applying
5.	Write in detail about Seed Act 1966.	BT-4	Analysing
6.	State the Importance of seed in successful crop production	BT-4	Analysing
7.	Explain Selection, Hybridization, Mutation.	BT-4	Analysing
8.	What is the role of seed inspector.	BT-4	Analysing
9.	Describe about the methods of genetic improvement in crop plants.	BT-4	Analysing
10.	State the mechanisms involved in cross pollination	BT-4	Analysing
11.	Discuss the methods of genetic improvement in crop plants.	BT-3	Applying

12.	Write in detail about Seed bill 2004.	BT-3	Applying
13.	State the mechanisms involved in self pollination with example.	BT-3	Applying
14.	Explain about dicliny.	BT-3	Applying
15.	Explain about genetic purity, physical purity & physiological purity.	BT-3	Applying
16.	Difference between seed production and crop production.	BT-3	Applying
17.	Difference between varietal production and hybrid production.	BT-3	Applying
PART – C			
SLNO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Explain about seed legislations promulgated in India from 1966 to date.	BT-5	Evaluating
2.	Explain in details about the qualities of good seed.	BT-5	Evaluating
3.	Explain the floral biology with neat sketch	BT-6	Creating
4.	State the mechanisms involved in cross-pollination external agents aiding cross-pollination.	BT-6	Creating
5.	Explain about scope and importance of seed production.	BT-6	Creating

UNIT-II: SEED PRODUCTION AND CERTIFICATION

Multiplication of seed and seed material: systems of seed multiplication, classes of seed, multiplication models, multiplication ratio, field selection, planting ratio, isolation needs and rouging- Harvest and extraction of seed- Methods of hybrid seed production- Genetic deterioration during crop production cycles- Seed certification process: legal basis, prerequisites for applicability, detailed description of the specific steps of the certification process (with particular emphasis on field inspection).

PART- A

SLNO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Define Hybrid.	BT-1	Remembering
2.	Define Seed certification.	BT-1	Remembering
3.	Define Isolation.	BT-1	Remembering
4.	Expand SMR.	BT-1	Remembering

5.	Define Field Inspection.	BT-2	Understanding
6.	Define Seed Certification.	BT-2	Understanding
7.	Define male sterility.	BT-2	Understanding
8.	Define Roughing.	BT-2	Understanding
9.	What is volunteer plants?	BT-2	Understanding
10.	List the Field Inspection Reports.	BT-2	Understanding
11.	Define seed analyst.	BT-1	Remembering
12.	Define Seed Inspector.	BT-1	Remembering
13.	Define field officer.	BT-1	Remembering
14.	Define roughing	BT-2	Understanding
15.	Define seed certification	BT-2	Understanding
16.	What is GOT.	BT-2	Understanding
17.	How to select a seed plot.	BT-1	Remembering
18.	Define physiological maturity indices.	BT-1	Remembering
19.	Define harvestable maturity indices.	BT-2	Understanding
20.	Define A,B,R lines.	BT-2	Understanding
21.	What is the land requirement for seed field.	BT-1	Remembering
22.	What is border row.	BT-1	Understanding
23.	List a tag colors for Breeder, foundation & certified seeds.	BT-1	Understanding
24.	Expand CMS,GMS,CGMS & EGMS.	BT-2	Understanding
25.	Who is the father of Hybrid rice where and when its released.	BT-1	Remembering

PART – B

SI.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Describe about Systems of seed multiplication.	BT-4	Analysing
2.	Define and describe about filed isolation.	BT-4	Evaluating
3.	Describe about harvesting and extraction of seeds.	BT-3	Applying
4.	Explain in detail about field inspection and factors which may affects the purity.	BT-4	Analysing
5.	Explain in detail about different types seeds and tags.	BT-4	Analysing
6.	Describe the types of male sterility involved in hybrid seed	BT-4	Analysing

	production.		
7.	Explain the different classes of seed and multiplication models.	BT-4	Analysing
8.	What are all the phases of seed certification? Explain.	BT-3	Applying
9.	How to maintain a genetic purity during seed production	BT-3	Applying
10.	Define hybrid and methods of hybrid seed production.	BT-3	Applying
11.	Write in detail about field inspection and factors which may affects the purity.	BT-3	Applying
12.	Write about supplementary pollination technique followed in rice and sunflower.	BT-3	Applying
13.	Write about physiological maturity indices for ten important crops.	BT-3	Applying
14.	Write about the classes of seed.	BT-3	Applying
15.	Write about dry seed extraction method.	BT-4	Analysing
16.	Write about acid seed extraction method for tomato.	BT-4	Analysing
17.	Details about methods of improving seed setting in rice.	BT-4	Analysing

PART – C

SL.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Enumerate the steps involved in seed certification process.	BT-5	Evaluating
2.	Describe about the Genetic deterioration during crop production.	BT-5	Evaluating
3.	Describe about the wet seed extraction methods.	BT-5	Evaluating
4.	Detail about synchronization of seed plot.	BT-6	Creating
5.	Write about Precautions of harvesting and threshing.	BT-6	Creating

UNIT-III: SEED PROCESSING AND TESTING

Components of seed processing in a broader sense- Steps in seed processing in its narrower sense: preliminary cleaning, basic cleaning and grading, and equipment used in each of the steps- Seed treatment- Seed drying- Seed sampling- Seed testing: details of specific tests conducted for different purposes (service, certification and seed law enforcement)- Standards prescribed for different crops.

PART- A

SL.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Define seed processing	BT-2	Understanding
2.	Define seed testing.	BT-1	Remembering
3.	Define seed sampling.	BT-2	Understanding
4.	Define seed treatment.	BT-1	Remembering

5.	What is service sample.	BT-1	Remembering
6.	What is official sample.	BT-1	Remembering
7.	What is certified sample.	BT-2	Understanding
8.	Define germination test.	BT-2	Understanding
9.	Define normal seedlings.	BT-1	Remembering
10.	Define abnormal seedlings.	BT-1	Remembering
11.	Write about nobbe trier.	BT-1	Remembering
12.	Write about hand halving method.	BT-2	Understanding
13.	What is the use of 1000 seed weight determination.	BT-1	Remembering
14.	What are all the test conducted in STL.	BT-1	Remembering
15.	What are the criteria comes under field standard.	BT-1	Remembering
16.	What is Seed disinfestations.	BT-1	Remembering
17.	What is Seed pelleting.	BT-3	Applying
18.	What is inert material.	BT-2	Understanding
19.	What is the role of Spiral separator.	BT-1	Remembering
20.	What is the role of Disc or indented cylinder separator.	BT-2	Understanding
21.	Write about the type of Layouts in seed processing.	BT-2	Understanding
22.	Define Seed health.	BT-1	Remembering
23.	List some chemical treatments to improve germination.	BT-1	Remembering
24.	Write about the Formulation of fungicides /insecticides.	BT-1	Remembering
25.	Define Seed hardening treatment.	BT-1	Remembering

PART – B

Sl.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Write about Scalper/rough cleaner and huller scarifier.	BT-4	Analysing
2.	Write about debeater and pebble mill	BT-4	Analysing
3.	Detail about maize sheeler	BT-4	Analysing
4.	Detail about groundnut decorticator.	BT-4	Analysing
5.	What are all the basics of seed cleaning	BT-3	Applying
6.	Write the Seed Processing Plant Building Layout.	BT-3	Applying
7.	Explain the analysis of Operation.	BT-3	Applying

8.	Write a movement of seed in a processing plant.	BT-3	Applying
9.	Describe the physical characteristics used to separate seeds .	BT-4	Analysing
10.	Give a flow charts illustrating the types of materials removed from harvested produce during processing.	BT-4	Analysing
11.	Describe about the working principle Specific gravity separator.	BT-4	Analysing
12.	Describe about the working principle Roll mill or dodder mill.	BT-4	Analysing
13.	What are all the processing equipments used for improving the quality of the seed.	BT-3	Applying
14.	Write about the seed treating equipment.	BT-3	Applying
15.	What are all the benefits of seed treatment.	BT-	Applying
16.	Describe the Types of Seed Treatment.	BT-3	Applying
17.	Give a uses of sampling equipments.	BT-3	Applying

PART – C

SLNO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Describe about seed processing plant layout planning.	BT-5	Evaluating
2.	Explain about preconditioning and pre cleaning.	BT-6	creating
3.	Detail about air screen cleaner machine with a neat sketch.	BT-6	creating
4.	Write procedure and steps followed in seed sampling and sampling equipments.	BT-6	creating
5.	Write the management of seed testing work.	BT-5	Evaluating

UNIT-IV: DEVELOPING SEED PROGRAMMES

Types of organizations involved in seed production (public, quasi-governmental, private and cooperative), and their objectives and features- Organizational set up of a seed company- Steps involved in planning and developing a seed programme- Seed marketing activities, and analysis of seed demand and supply- Costing and pricing strategies Economics of production of different crop seed- Seed packaging- Opportunities for Indian seed companies to have a greater share of world seed market- Visit to seed organizations- Preparing seed projects to obtain credit- Export procedures and formalities- Seed/plant quarantine methods.

PART- A

SLNO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Define Hybrid.	BT-1	Remembering
2.	Define Seed certification.	BT-1	Remembering

3.	Define Isolation.	BT-2	Understanding
4.	Expand SMR.	BT-2	Understanding
5.	Define Field Inspection.	BT-2	Understanding
6.	Define Seed Certification.	BT-1	Remembering
7.	Define male sterility.	BT-1	Remembering
8.	Define Roughing.	BT-2	Understanding
9.	What is volunteer plants?	BT-2	Understanding
10.	List the Field Inspection Reports.	BT-2	Understanding
11.	Define seed analyst.	BT-1	Remembering
12.	Define Seed Inspector.	BT-1	Remembering
13.	Define field officer.	BT-1	Remembering
14.	Define roughing	BT-1	Remembering
15.	Define seed certification	BT-2	Undersanding
16.	What is GOT.	BT-2	Understanding
17.	How to select a seed plot.	BT-2	Analysing
18.	Define physiological maturity indices.	BT-2	Analysing
19.	Define harvestable maturity indices.	BT-2	Analysing
20.	Define A,B,R lines.	BT-1	Remembering
21.	What is the land requirement for seed field.	BT-1	Remembering
22.	What is border row.	BT-1	Remembering
23.	List a tag colors for Breeder, foundation & certified seeds.	BT-1	Remembering
24.	Expand CMS,GMS,CGMS & EGMS.	BT-1	Remembering
25.	Who is the father of Hybrid rice where and when its released.	BT-1	Remembering

PART – B

SL.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Write about Scalper/rough cleaner and huller scarifier.	BT-4	Analysing
2.	Write about debeater and pebble mill	BT-4	Analysing
3.	Detail about maize sheeler	BT-4	Analysing
4.	Detail about groundnut decorticator.	BT-4	Analysing
5.	What are all the basics of seed cleaning	BT-4	Analysing

6.	Write the Seed Processing Plant Building Layout.	BT-3	Understanding
7.	Explain the analysis of Operation.	BT-3	Understanding
8.	Write a movement of seed in a processing plant.	BT-3	Understanding
9.	Describe the physical characteristics used to separate seeds .	BT-3	Understanding
10.	Give a flow charts illustrating the types of materials removed from harvested produce during processing.	BT-3	Understanding
11.	Describe about the working principle Specific gravity separator.	BT-4	Analysing
12.	Describe about the working principle Roll mill or dodder mill.	BT-4	Analysing
13.	What are all the processing equipments used for improving the quality of the seed.	BT-4	Analysing
14.	Write about the seed treating equipment.	BT-3	Understanding
15.	What are all the benefits of seed treatment.	BT-3	Understanding
16.	Describe the Types of Seed Treatment.	BT-3	Understanding
17.	Give a uses of sampling equipments.	BT-3	Understanding

PART – C

SI.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Describe about seed processing plant layout planning.	BT-5	Evaluating
2.	Explain about preconditioning and pre cleaning.	BT-6	Creating
3.	Detail about air screen cleaner machine with a neat sketch.	BT-5	Evaluating
4.	Write procedure and steps followed in seed sampling and sampling equipments.	BT-6	Creating
5.	Write the management of seed testing work.	BT-6	Creating

UNIT-V: SEED PRODUCTION IN SPECIFIC CROPS

198 Principles and special techniques used for seed production in important horticultural crops by selecting representatives of vegetable / flower / fruit / spice / condiment / plantation crops.

PART- A

SI.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Define Hybrid.	BT-1	Remembering
2.	Define Seed certification.	BT-1	Remembering
3.	Define Isolation.	BT-2	Understanding
4.	Expand SMR.	BT-2	Understanding
5.	Define Field Inspection.	BT-2	Understanding

6.	Define Seed Certification.	BT-2	Understanding
7.	Define male sterility.	BT-2	Understanding
8.	Define Roughing.	BT-2	Understanding
9.	What is volunteer plants?	BT-1	Remembering
10.	List the Field Inspection Reports.	BT-1	Remembering
11.	Define seed analyst.	BT-1	Remembering
12.	Define Seed Inspector.	BT-2	Understanding
13.	Define field officer.	BT-2	Understanding
14.	Define roughing	BT-2	Understanding
15.	Define seed certification	BT-2	Understanding
16.	What is GOT.	BT-2	Understanding
17.	How to select a seed plot.	BT-1	Remembering
18.	Define physiological maturity indices.	BT-1	Remembering
19.	Define harvestable maturity indices.	BT-1	Remembering
20.	Define A,B,R lines.	BT-	Remembering
21.	What is the land requirement for seed field.	BT-1	Remembering
22.	What is border row.	BT-1	Remembering
23.	List a tag colors for Breeder, foundation & certified seeds.	BT-1	Remembering
24.	Expand CMS,GMS,CGMS & EGMS.	BT-1	Remembering
25.	Who is the father of Hybrid rice where and when its released.	BT-1	Remembering

PART – B

SI.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Write about Scalper/rough cleaner and huller scarifier.	BT-4	Analysing
2.	Write about debeater and pebble mill	BT-4	Analysing
3.	Detail about maize sheeler	BT-4	Analysing
4.	Detail about groundnut decorticator.	BT-4	Analysing
5.	What are all the basics of seed cleaning	BT-4	Analysing
6.	Write the Seed Processing Plant Building Layout.	BT-4	Analysing
7.	Explain the analysis of Operation.	BT-5	Evaluating
8.	Write a movement of seed in a processing plant.	BT-5	Evaluating

9.	Describe the physical characteristics used to separate seeds .	BT-5	Evaluating
10.	Give a flow charts illustrating the types of materials removed from harvested produce during processing.	BT-5	Evaluating
11.	Describe about the working principle Specific gravity separator.	BT-5	Evaluating
12.	Describe about the working principle Roll mill or dodder mill.	BT-5	Evaluating
13.	What are all the processing equipments used for improving the quality of the seed.	BT-4	Analysing
14.	Write about the seed treating equipment.	BT-4	Analysing
15.	What are all the benefits of seed treatment.	BT-4	Analysing
16.	Describe the Types of Seed Treatment.	BT-4	Analysing
17.	Give a uses of sampling equipments.	BT-4	Analysing
PART – C			
SI.NO	QUESTIONS	BT LEVEL	COMPETIENCE
1.	Describe about seed processing plant layout planning.	BT-5	Evaluating
2.	Explain about preconditioning and pre cleaning.	BT-5	Evaluating
3.	Detail about air screen cleaner machine with a neat sketch.	BT-5	Evaluating
4.	Write procedure and steps followed in seed sampling and sampling equipments.	BT-6	creating
5.	Write the management of seed testing work.	BT-6	creating