

GURU KASHI UNIVERSITY										
Faculty of Agriculture										
Diploma in Agriculture Science-1Year										
Academic Session 2025-2026 Study Scheme (Annual System)										
Sr.	Subject Code	Subject Name	Type of Subject T/P	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	DAG101	Soil Fertility& Plant Nutrition	T/P	2	0	2	3	30	70	100
2	DAG102	Crop and Seed Production-I (Kharif Crops)	T/P	2	0	2	3	30	70	100
3	DAG103	Insect Pests and Pesticides	T/P	2	0	2	3	30	70	100
4	DAG104	Plant Diseases and their Management	T/P	2	0	2	3	30	70	100
5	DAG105	Manures and Fertilizers	T/P	2	0	2	3	30	70	100
6	DAG106	Crop and Seed Production-II(Rabi Crops)	T/P	2	0	2	3	30	70	100
7	DAG107	Pesticides Management	T/P	2	0	2	3	30	70	100
8	DAG108	Plant Protection	T/P	2	0	2	3	30	70	100
Total No. of Credits							24	240	560	800

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Syllabus: Diploma in Agriculture Science
Session 2025-2026 Onwards –Study Scheme (Annual System)

Soil Fertility & Plant Nutrition (DAG101)

Credits: 3

L T P

2 0 1

Soil Fertility & Plant Nutrition - Importance of soil testing, soil sampling methods, interpretation of soil test reports. Classification of plant nutrients and their functions, deficiency symptoms of nutrients and their remedies. Plant nutrition - classification, function, deficiency symptoms and their remedies. Inorganic Fertilizers – classification, chemical composition, timing and methods of application, calculating fertilizers requirements based on soil test reports, soil amendments.

Crop and Seed Production-I (Kharif Crops) (DAG102)

Credits: 3

L T P

2 0 1

Crop and Seed Production-I (Kharif Crops) Definition, importance, classification, seed quality and seed production, certification, grading, packaging and labeling of seed, Punjab seeds act and regulations. Kharif crops including vegetables and fruits – Importance, soil and climate requirements, varieties, agronomic practices with emphasis on weeds, their identification and management. Accurate use of agro chemicals and plant growth regulators.

Insect Pests and Pesticides (DAG103)

Credits: 3

L T P

2 0 1

Insect Pests and Pesticides: Important insect pests of field crops, horticultural and vegetable crops including stored grains and products; identification of insect pests, their life cycles and management. Pesticides Legislation: Introduction, Pesticide names, types, formulations, product labels. Insecticides Act 1968, insecticide rules 1971 and state(s) regulations governing production, sale, transport and storage of pesticides as outlined by the central insecticides board of India. Legal obligations of dealers, farmers (consumers), manufacturers in the light of insecticide act 1968 of India.

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Plant Diseases and their Management (DAG104)

Credits: 3

L T P

2 0 1

Plant Diseases and their Management: An account of various types of plant diseases caused by bacteria, fungi, viruses and nematodes. Types of symptoms and control of plant diseases in horticultural and field crops. Diagnosis of crop diseases, assessing their intensity and losses. Compatibility of fungicides with other agro chemicals. Post harvest problems in storage and their management.

Manures and Fertilizers (DAG105)

Credits: 3

L T P

2 0 1

Manures and fertilizers – Organic fertilizers, Importance, classification, composition, methods of preparation and application, crop residues, Bio fertilizers and integrated nutrient management. Fertilizer legislation and marketing – Quality control of fertilizers, Fertilizer movement control order – Inspection and seizer of fertilizer stocks, FCO requirements for manufacturers including labeling and starting of fertilizer business.

Crop and Seed Production-II: (Rabi Crops) (DAG106)

Credits: 3

L T P

2 0 1

Crop and Seed Production-II: (Rabi Crops): Rabi crops - Importance, soil and climate requirements, varieties, agronomic practices with emphasis on weeds and their management. Importance of field crops, horticultural crops including vegetables, their soil and climate requirements, varieties, cultural practices and yield.

Pesticides Management (DAG107)

Credits: 3

L T P

2 0 1

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Pesticides Management: Calibration of equipment, working out of dosages of pesticides; types of equipment - Dusters, sprayers, granule applicators, fumigators- knowledge about their working, parts and maintenance. Bee poisoning, toxicity of pesticides to non-target fauna and flora. Toxicity and hazards of pesticides – Pesticides exposure to humans, types of toxicity and hazard indicators/labels. Handling of pesticides: Transporting, storing mixing and loading, applying, disposing of pesticides and containers, personal cleanliness, pesticide spills, Protective clothing, Pesticides poisoning and first aid. Protecting environment during pesticide applications. Knowledge of antidotes in pesticides poisoning to workers.

Plant Protraction (DAG108)

Credits: 3

L T P

2 0 1

Plant Protraction: Factors responsible for disease development and status of plant diseases in changed scenario of cropping system in Punjab. Comprehensive understanding of important diseases of field crops, including horticultural crops and post harvest diseases in stored conditions. Success of Integrated Plant Disease Management program in select crops. Diagnosing pathological, nutritional and physiological disorders in crops and finding their resolutions.

Academic Calendar

Programme: Diploma in Agriculture Science 1 year

Subject: DAG101–Soil fertility and Plant nutrition

S.No.	Week No.	Topics	L/P	No. of	Remarks
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				Classes	
1	1, 2	Introduction	L	8	
2	3, 4,5	Importance of soil testing	L	11	
3	6, 7, 8	Soil sampling methods	L	12	
4	9, 10	Interpretation of soil test reports	L	9	
5	11, 12	Classification of plant nutrients	L	9	
6	13	Revision	L	6	
7	14, 15	Functions of plant essential nutrients	L	9	
8	16, 17	Deficiency symptoms of nutrients	L	9	
9	18	Class test and discussion	L	6	
10	19, 20	Remedies to correct nutrient deficiencies	L	10	
11	21, 22, 23	Inorganic Fertilizers	L	13	
12	24, 25, 26	Classification of fertilizers, chemical composition, timing and methods of application,	L	13	
13	27	Revision	L	6	
14	28, 29	Calculating fertilizers requirements based on soil test reports, soil amendments	L	9	
15	30	Group discuss	L	6	
16	31, 32	Class test	L	7	
17	33, 34	Calculation of nitrogenous fertilizer doses	L	9	

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18	35, 36	Band and point placement method of fertilizer application	L	8	
19	37, 38	Class discussion	L	9	
20	39, 40	Class test	L	8	
21	41, 42	Organic and inorganic fertilizers	L	8	
22	43, 44	Biofertilizers	L	9	
23	45, 46	Seed treatment	L	9	
24	47, 48	Revision	L	10	
25	49,	Class test	L	5	
26	50, 51	Preparation of organic manures	L	9	
	Total			225	

Reference:

- Principles and practices of agronomy by S. R Reddy
- Handbook of manure and fertilizers
- Fundaments of soil sciences by D. K. Das

Academic Calendar

Programme: Diploma in Agriculture Science 1 year

Subject: DAG102–Crop and Seed Production Kharif Crops

S.No.	Week No.	Topics	L/P	No. of	Remarks
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				Classes	
1	1-3	Introduction	L	5	
2	4-7	IMPORTANCE	L	5	
3	8-12	CLASSIFICATION	L	5	
4	13-16	SEED QUALITY AND SEED PRODUCTION	L	15	
5	17-21	SEED GRADING, PACKING AND LABELLING	L	15	
6	22-23	SEED ACT	L	15	
7	24-25	CLASS TEST 1 AND DISCUSSION	L	15	
8	26-29	RICE CROP FULL DETAIL	L	15	
9	30-31	MAIZE CROP FULL DETAIL	L	15	
10	32-33	GROUNDNUT CROP FULL DETAIL	L	15	
11	34-35	MOONG CROP DETAIL	L	15	
12	36-37	MASH CROP DETAIL	L	15	
13	38-39	ARHAR CROP DETAIL	L	15	
14	40-41	COW PEA CROP DETAIL	L	15	
15	42	CLASS TEST 2 AND DISCUSSION	L	5	
16	43	VEGETABLE CROPS	L	10	
17	44	FRUIT CROPS	L	10	
18	45	CLASS TEST 3 AND DISCUSSION	L	5	
19	46	CLASSIFICATION OF WEEDS	L	10	
20	47	HARMFUL ASPECTS OF WEED	L	10	
21	48	USEFUL ASPECTS OF WEED	L	10	
22	49	HERBICIDE	L	10	
23	50	CLASS TEST 3 AND DISCUSSION	L	5	
24	51	CLASS TEST 4	L	5	

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		AND DISCUSSION			
25	52	REVISION	L	5	
	Total			265	

Crop and Seed Production-I '(Kharif Crops) (DAG102) - Credits: 3 LTP 2 0 1

Crop and Seed Production-I (Kharif crops)- Definition, importance, classification, seed quality and seed production, certification, grading, packaging and labelling of seed, 'Punjab seeds act and regulations. Kharif crops including vegetables and fruits - Importance, soil and - climate requirements, varieties, agronomic. practices with emphasis on weeds, their identification and management. Accurate use of agro chemicals and plant growth regulators.

Reference:

1. FUNDAMENTAL OF AGRONOMY ARUN KATYAYAN
2. WEED MANAGEMENT U.S. WALIA
3. PACKAGE PRACTICES OF KHARIF CROPS

Subject- Insect Pest and Pesticide (DAG103)

Credits: 3

LTP

2 0 1

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Insect Pest and Pesticide (DAG103): Important pest of field crop, horticultural and vegetable crops. Identification of pest, lifecycle and their management. Pesticide names, formulations and types. Insecticide act 1968 and insecticide rules 1971

Unit	Week No.	Topic	Sub Topics	No. of Classes Required	L/P	Remarks (If any)
1	1-5	Introduction	Introduction to Importance, type of pests, pest categories.	25	L/P	
2	6-10	Pest of important field crops	Identification of pest, lifecycle and their management.	25	L/P	
	11	Revision		5		
	12	Test		5		
3	13-18	Pest of important horticultural crops	Identification of pest, lifecycle and their management.	25	L/P	
4	19-24	Pest of important vegetable crops	Identification of pest, lifecycle and their management.	25	L/P	
	25	Revision		5		
	26	Test		5		
5	27-32	Pesticide formulations	Importance and identification of pesticide formulation	25	L/P	
6	33-38	Pest of stored grain products	Identification of pest, lifecycle and their management.	25	L/P	
7	39-44	Insecticide Act 1968 and Insecticide rule 1971	Importance, legislation and banned list of pesticides	25	L/P	
8	45-50	Pest Management using different	Mode of action and Formulations of	25	L/P	

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		techniques	insecticides, components of IPM			
	51	Revision		5		
	52	Test		5		
		230				

Notes

1. Package of practices, Pau Ludhiana 2022-23
2. Pest of field crops, horticultural and vegetable crops from online site

https://agritech.tnau.ac.in/crop_protection/crop_prot.html

Class test:

https://docs.google.com/forms/d/e/1FAIpQLSceAU9fFANGXtaS-f1iohbZnC-KxA4bavNdvVrWJ0x4ospy_A/viewform?vc=0&c=0&w=1&flr=0

https://docs.google.com/forms/d/e/1FAIpQLSeAS3wrIsiQ1YlyDVwj0kgKOQ6WzZ8Kr1cdygnP_r_euz63OA/viewform?vc=0&c=0&w=1&flr=0

<https://docs.google.com/forms/d/e/1FAIpQLSffywBjo6gKo3kv8BYbwN1TBqAb6qPPpIZhL7IS9M1E5PbdkQ/viewform?vc=0&c=0&w=1&flr=0>

Academic Calendar

Programme: Diploma in Agriculture Science 1 year

Subject: DAG104 - Plant Diseases and Their Management-I

S.No.	Week No.	Topics	L/P	No. of	Remarks
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				Classes	
1	1	Introduction	L	5	
2	2	Cause of Plant Disease	L	5	
3	3	Fungi	L	5	
4	4	Bacteria	L	5	
5	5	Virus	L	5	
6	6	Nematodes	L	5	
7	7	Sign and Symptoms of Plant disease caused by various pathogen	L	5	
8	8,9, 10	Plant Disease Management methods	L	15	
9	11	Revision	L	5	
10	12	Q & A sessions	L	5	
11	13	Class Test 1 and Discussion	L	5	
12	14	Rice: Disease Symptoms and Management	L + P	5	
13	15	Cotton: Disease Symptoms and Management	L + P	5	
14	16	Maize: Disease Symptoms and Management	L + P	5	
15	17	Wheat: Disease Symptoms and Management	L + P	5	
16	18	Revision	L	5	
17	19	Class Test 2 and Discussion	L	5	
18	20	Cruciferous: Disease Symptoms and Management	L + P	5	
19	21 - 24	Other Field crops: Disease Symptoms and Management	L + P	20	
20	25	Revision	L	5	
21	26	Class Test 3 and Discussion	L	5	
22	27 - 30	Horticulture Crops: Disease Symptoms and Management	L + P	20	
23	31 - 33	Horticulture Crops: Disease Symptoms and Management	L + P	15	
24	34	Revision			
25	35	Class Test 4 and Discussion	L	5	
26	36	Agrochemicals	L	5	
27	37 - 39	Fungicides,	L	15	

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		Bactericides, Nematicides			
28	40 - 42	Insecticides	L	15	
29	43, 44	Compatibility of Agrochemicals	L	10	
30	45	Safe Use of Pesticides	L	5	
31	46, 47	Post Harvest Diseases and Problems	L	10	
32	48, 49	Post Harvest Diseases: Management	L	10	
33	50	Revision	L	5	
34	51	Revision, Class Test 5 and Discussion	L	5	
35	52	Revision, Class Test 6 and Discussion	L	5	
Total	52 weeks			260	

Plant Disease and Their Management- I

Credit: 3

L	T	P
2	0	1

Plant diseases and their management: An account of various types of plant diseases caused by bacteria, fungi, viruses and nematodes. Types of symptoms and control of plant diseases in horticultural and field crops. Diagnosis of crop diseases, assessing their intensity and losses. Compatibility of fungicides with other agrochemicals. Post harvest problems in storage and their management.

Reference:

1. Rangaswami, G & Mahadevan, K.2001. Diseases of crop plants in India, Prentice Hall of India Pvt. Ltd., New Delhi
2. Singh, R.S.2005. Plant Diseases. Oxford & IBH Publications, New Delhi
3. Chaube, H.S and V.S. Pundhir,2012. Crop Diseases & Their Management. PHI Pvt. Ltd., New Delhi

Academic Calendar

Programme: Diploma in Agricultural Science (1 Year)

Manure and fertilizers (DAG105)

Eligibility: 10th Pass

Duration: 52 weeks

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Working day in a week: 5
 Credit: 3

Duration of class: 1 hr
 L T P
 2 0 1

Manures and fertilizers Organic fertilizers. Importance, classification, composition, methods of preparation and application, crop residues, Bio fertilizers and integrated nutrient management. Fertilizer legislation and marketing - Quality control of fertilizers, Fertilizer movement control order - Inspection and seizer of fertilizer stocks, FCO requirements for manufacturers including labeling and starting of fertilizer business.

Sr. No.	Week No.	Topics	L/P	No. of Classes	Remarks (If any)
1	1	Introduction	L	5	
2	2&3	Manures and its type	L	10	
3	4&5	Manufacturing process of Manure	L	10	
4	6&7	Fertilizers	L	10	
5	8&9	Manufacturing process of Fertilizer	L	10	
6	10&11	Organic fertilizers	L	10	
7	12&13	Importance,	L	10	
8	14&15	classification of manure	L	10	
9	16&17	Class test and discussion	L	10	
10	18,19&20	Methods of preparation and application of different manure and fertilizer	L	15	
11	21,22&23	Revision	L	15	
12	24	Surprise test and discussion	L	5	
13	25&26	Bio fertilizers and their uses	L	10	
14	27,28&29	Fertilizer legislation, - Inspection and seizer of fertilizer stocks	L	15	
15	30&31	Fertilizermarketing	L	10	
16	32&33	Quality control of fertilizers	L	10	
17	34&35	Fertilizer movement control order	L	10	
18	36	Class test and discussion	L	5	
19	37,38&39	FCO requirements for manufacturers	L	15	

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		including labeling			
20	40,41&42	FCO requirements for manufacturers including starting of fertilizer business	L	15	
21	43,44&45	Crop residues management	L	15	
22	46&47	Integrated nutrient management	L	10	
23	48,49&50	Revision	L	15	
24	51	Class test and discussion	L	5	
25	52	Class test and discussion	L	5	
Total no. of Weeks: 52 Total no. Classes: 260					

References:

Principles and practices of agronomy by S. R Reddy

Handbook of manure and fertilizers

Fundamentals of soil sciences by D. K. Das

Academic calendar for Diploma in Agriculture Science
Subject- Crop and seed Production II (DAG106)

Credits: 3
L T P
2 0 1

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Crop and seed Production II: Rabi crops • Importance, soil and climate requirements, varieties, agronomic practices with emphasis on weeds and their management. Importance of field Crops, horticultural crops including vegetables, their soil and climate requirements, varieties, cultural practices and yield. Topic wise classes:

Unit	Week No.	Topic	Sub Topics	No. of Classes Required	L/P	Remarks (If any)
1	1-5	Introduction	Introduction to Importance, soil and climate requirements for rabi crops	25	L/P	
2	6-11	Cultural Practices	Different varieties, agronomic practices required to produce different rabi season crops.	30	L/P	
	12	Revision		5		
	13-18	Test		25	L/P	
3	19-24	Weed Management	weeds and their management.	25	L/P	
4	25	Integrated Nutrient Management	Success of Integrated Nutrient Management in rabi crops.	5		
	26	Revision		5		
	27-32	Test		25	L/P	
5	33-38	Importance of field Crops	Importance of field Crops	25	L/P	
6	39-44	Importance horticultural crops including vegetables	importance of horticultural crop including vegetables	25	L/P	
7	45-50	Importance of soil and climatic requirements	Importance of field Crops, horticultural crops including vegetables, their soil and climate	25	L/P	

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			requirements, varieties, cultural practices and yield			
	51	Revision		5		
	52	Test		5		
Conduct classes for Syllabus coverage 230						

Notes

1. RABI CROPS - YouTube
2. Methods of Sowing in india - YouTube
3. Methods of irrigation in india – YouTube

Academic Calendar

Programme: Diploma in Agricultural Science (1 Year)
Pesticide Management-II (DAG107)
Eligibility: 10th Pass

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Duration: 52 weeks

Working day in a week: 5

Credit: 3

Duration of class: 1 hr

L T P

2 0 1

Calibration of equipment, working out of dosages of pesticides; types of equipment -Dusters, sprayers, granule applicators, fumigators- knowledge about their working, parts and maintenance. Bee poisoning, toxicity of pesticides to non-target fauna and flora Toxicity and hazards of pesticides - Pesticides exposure to humans, types of toxicity and hazard indicators/labels. Handling of pesticides: Transporting. storing mixing and loading, applying, disposing of pesticides and containers, personal cleanliness, pesticide spills, Protective clothing, Pesticides poisoning and first aid. Protecting environment during pesticide applications. Knowledge of antidotes in pesticides poisoning to workers

Sr. no.	Week No.	Topic	No. of Class Required	Remarks
1	1	Introduction	5	
2	2&3	Calibration of equipment	10	
3	4,5&6	working out of dosages of pesticides;	15	
4	7	Class test and discussion	5	
5	8,9&10	Types of equipment - Dusters, sprayers, granule applicators, fumigators-	15	
6	11,12&13	Knowledge about the working, parts and maintenance of Equipment	15	
7	14&15	Revision	10	
8	16	Surprise test & Discussion	5	
9	17,18&19	Handling of pesticides: applying, , ,	15	
10	20,21&22	Transporting. storing mixing and loading of Pesticide	15	
11	23&24	Personal cleanliness	10	
12	25	Pesticide spills	5	
13	26&27	Disposing of pesticides and	10	

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		containers		
14	28&29	Protective clothing,	10	
15	30&31	Pesticides poisoning and first aid.	10	
16	32,33&34	Protecting environment during pesticide applications.	15	
17	35&36	Class test and discussion	10	
18	37&38	Knowledge of antidotes in pesticides poisoning to workers	10	
19	39&40	Bee poisoning	10	
20	41&42	toxicity of pesticides to non-target fauna and flora	10	
21	43&44	Toxicity and hazards of pesticides	10	
22	45	Pesticides exposure to humans,	5	
23	46&47	types of toxicity and hazard indicators/labels	10	
24	48&49	Revision	10	
25	50&51	Class test and discussion	10	
26	52	Class test and discussion	5	

Total No. of weeks: 52 Total no. of Classes: 260

References:

Textbook of Integrated pest management

[https:// Textbook-Integrated-Pest-Management/dp/B00YQDOH8S](https://Textbook-Integrated-Pest-Management/dp/B00YQDOH8S)
Principle and practices of pesticide management

Academic calendar for Diploma in Agriculture Science

Subject- Plant Protection (DAG108)

Credits: 3

L T P

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201

Plant diseases and their management-U: Factors responsible for disease development and status of plant diseases in changed scenario of cropping system in Punjab. Comprehensive understanding of important diseases of field crops, including horticultural crops and post harvest diseases in stored conditions. Success of Integrated Plant Disease Management program in select crops. Diagnosing pathological, nutritional and physiological disorders in crops and finding their resolutions.

Topic wise classes:

Unit	Week No.	Topic	Sub Topics	No. of Classes Required	L/P	Remarks (If any)
1	1-5	Introduction	Factors responsible for disease development and status of plant diseases in changed scenario of cropping system in Punjab.	25	L/P	
2	6-10	Plant disease	Comprehensive understanding of important diseases of field crops	25	L/P	
	11	Revision		5		
	12	Test		5		
3	13-18	Plant disease	Horticultural crops and post harvest diseases in stored conditions.	25	L/P	
4	19-24	Integrated Plant Disease Management	Success of Integrated Plant Disease Management program in select crops.	25	L/P	
	25	Revision		5		
	26	Test		5		
5	27-32	Diagnosis	Diagnosing pathological, nutritional and physiological disorders in crops.	25	L/P	

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6	33-38	Disease Resistance	Genetics of resistance, 'R' genes, mechanism of genetic variation in pathogens, molecular basis for resistance, marker-assisted selection and genetic engineering for disease resistance.	25	L/P	
7	39-44	Disease Management	Principles and methods of plant disease management. Chemical control; classification,	25	L/P	
8	45-50	Disease Management	Mode of action and Formulations of fungicides and antibiotics.	25	L/P	
	51	Revision		5		
	52	Test		5		
		230				

Class test:

https://docs.google.com/forms/d/e/1FAIpQLScWL5oVKa3PiAmrVejNovU1y7V8Aql57cKS_Hogqs3JajJnErw/viewform?vc=0&c=0&w=1&flr=0&pli=1

<https://docs.google.com/forms/d/e/1FAIpQLSdHnHg3xduz48P3LbnjidNHY0JDNRdJZuS2dvGEjRKZjE8uWw/viewform?vc=0&c=0&w=1&flr=0>

https://docs.google.com/forms/d/e/1FAIpQLSd0gmW4PopslltB-Bhhhe-I2apYCh7WOgyld3x9PtYbb9_ww/viewform?vc=0&c=0&w=1&flr=0

https://docs.google.com/forms/d/e/1FAIpQLSeoY3W60kapf1Cxae4a_ZRIWJG9lr2mpk6Lj5lis92xsjJHag/viewform?vc=0&c=0&w=1&flr=0