

SUBJECT: VEGETABLE GROWER (VGGR)**CLASS XII
SEMESTER III****THEORY****FULL MARKS: 30****[MCQ Type (1 Mark) Question]**

UNIT	Topic	No. of periods assigned	Marks
1	Introduction	8	8
2	Site selection and land preparation	5	2
3	Nursery management and transplanting	6	5
4	Nutrient management	5	4
5	Irrigation	4	2
6	Intercultural operations and crop rotation	8	4
7	Plant protection	5	3
8	Harvesting	4	2
	Total	45	30

DETAILED SYLLABUS

UNIT	Topic	No. of periods assigned
1	Introduction: Definition of vegetables, nutritional importance and scope of vegetables in India, classification of vegetables, uses of vegetables, area, productivity and production of vegetable crops, constraints in vegetable production; Kitchen garden - definition, advantages, lay out, location, size, crop arrangement	8
2	Site selection and land preparation: Site selection for vegetable production, selection of land and land preparation, basal application of manures and fertilizers, soil and climatic requirement, crop growing season	5
3	Nursery management and transplanting: Definition of seed, qualities of good seed, different types of vegetative planting materials, sources of good seed, seed treatment, seed sowing and raising of seedlings in nursery, hardening of seedlings, method and benefit of transplanting, suitable vegetables for transplanting, selection of seedlings and care during transplanting	6
4	Nutrient management: Manures and fertilizers - method and time of application; bio-fertilizers in vegetable production - types, benefits and methods of application; integrated nutrient management	5
5	Irrigation: Methods and time of irrigation. guidelines for irrigation in vegetable crops	4
6	Intercultural operations and crop rotation: Weed control, mulching, thinning and gap filling, earthing up, top dressing, staking, training and pruning, blanching, artificial pollination; crop rotation - definition, principles, advantages and examples	8

7	Plant protection: Acquaintances with important diseases, pests and physiological disorders of vegetable crops, methods of disease and pest control in vegetable crops, integrated disease and pest management in vegetable crops	5
8	Harvesting: Time and methods of harvesting, maturity indices for harvesting of vegetable crops	4
	Total	45

VEGETABLE GROWER (VGGR)

CLASS XII

SEMESTER IV

THEORY

FULL MARKS: 30

[SAQ (2 Marks) and LAQ Type (4 Marks) Question]

UNIT	Topic	No. of periods assigned	Marks
1	Cultivation of vegetable crops	50	22
2	Post-harvest management	6	4
3	Economics of vegetable production	7	4
	Total	63	30

DETAILED SYLLABUS

UNIT	Topic	No. of periods assigned
1	Cultivation of vegetable crops: Importance, soil and climate, season, variety, sowing/planting, land preparation, seed rate, spacing, manures and fertilizers, irrigation, weed control, intercultural operations, major insects and diseases – damage symptoms, control measures, physiological disorders - symptoms and remedial measures, harvesting and yield of a) Solanaceous vegetables –potato, tomato, brinjal, chilli, capsicum b) Cucurbitaceous vegetables - bottle gourd, bitter gourd, pointed gourd, ridge gourd, pumpkin, cucumber, c) Okra d) Leafy vegetables - amaranthus, basella, palak, coriander e) Root vegetables- carrot, radish, beet f) Bulb vegetables - onion, garlic g) Cole crops - cabbage, cauliflower, knolkhol, broccoli h) Peas and beans - cowpea, garden pea, French bean, dolichos bean i) Tuber crops - elephant foot yam, sweet potato, colocasia	50
2	Post-harvest management: Curing, trimming, washing, cleaning, sorting, grading and packaging of vegetable crops for marketing, transportation techniques of different vegetables, traditional storage in village and cold storage of vegetable crops	6

3	Economics of vegetable production: Sale of vegetable crops and supply-chain from producers to consumer, export quality standard of vegetables, economics of production- cost of cultivation, gross return, net income and B:C ratio; crop insurance - importance, enrolment procedure, premium rate and compensation claim for damage	7
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PRACTICAL AND PROJECT
CLASS XII

FULL MARKS: 50 (Practical) + 20 (Project)

NO. OF PERIODS ASSIGNED: 144 (120 for Practical+24 for Project)

DETAILED SYLLABUS

Sl. No.	Topic	No. of periods
SEMESTER III		
1	Identification of different vegetables	4
2	Preparation of a state wise map of India indicating major vegetable crops	2
3	Preparation of a district wise map of West Bengal indicating major vegetable crops	2
4	Preparation of a chart of vegetables according to family	2
5	Preparation of a chart of vegetables indicating their importance	2
6	Understanding of site, soil type and land suitable for vegetable production	4
7	Understanding of climatic requirement based on weather forecasting (audio, audio-visual, newspaper, social media)	4
8	Collection of soil samples, nutrient information from soil health card and fertilizer application schedule for vegetable crops	4
9	Preparation of a chart showing layout of model kitchen garden	3
10	Identification of vegetable seeds	4
11	Demonstration of propagation methods in vegetable crops (tuber, corm, bulb, clove, cutting)	5
12	Preparation of seed bed for vegetable crops	3
13	Preparation of a chart of crop rotation for vegetable production	3
14	Identification of manures and fertilizers along with nutrient content for vegetable production	3
15	Identification of weeds in the field of vegetable crops	5
16	Identification of insects in the field of vegetable crops	5
17	Identification of diseases in the field of vegetable crops	5
	Total	60
SEMESTER IV		
18	Preparation of a calendar for year round vegetable production	2
19	Demonstration of seed treatment in vegetable crops (dry and wet method)	2
20	Sowing of some vegetable crops in individual plot	7
21	Transplanting of vegetable seedlings	3
22	Demonstration of methods of fertilizer application in vegetable crops	2
23	Demonstration of methods of irrigation in vegetable crops	2
24	Demonstration of methods of weed control	2
25	Demonstration of methods of intercultural operations (thinning, gap filling,	6

	earthing up, top dressing, staking, mulching, training and pruning, blanching, artificial pollination in pointed gourd)	
26	Identification of physiological disorders of vegetable crops	4
27	Harvesting of vegetable crops according to maturity indices.	4
28	Seed extraction and drying of vegetables (tomato, brinjal, bottle gourd, cucumber)	5
29	Cleaning, trimming, washing, sorting, grading and packaging of vegetable crops for marketing and storage	5
30	Identification of different containers for marketing of vegetables	2
31	Identification of different containers for storage of vegetable seed	2
32	Calculation of cost of cultivation for vegetable production (gross return, net return and B:C ratio)	2
33	Market visit and understanding of place of production, mode of transport, variation in supply and price, mode of sale, presence of middleman)	4
34	Visit to vegetable production farm / field of progressive farmer/vegetable seed production farm	4
35	Claim for money under crop insurance programme based on damage of vegetable Crops	2
	Total	60
	PROJECT	24
	Total	84
	Class XII Total	144

PROJECT (20 marks: Two Projects, 10 marks each)

Sl. No.	Project	Details	Marks
1	Project I (12 periods)	Project on a model tomato-based farm including economics [Example: land in farm, facilities, crop sequence, crop management, production, processing, marketing and economics]	10
2	Project II (12 periods)	Project on a model potato-based farm including economics [Example: land in farm, facilities, crop sequence, crop management, production, storage, marketing and economics]	10
3	Project III (12 periods)	Project on production-processing-marketing chain of vegetable crops [Example: land in garden, facilities, crop management, production, processing, grading, marketing-chain, man power involved and economics]	10
4	Project IV (12 periods)	Project on a production unit for value-added products of vegetable crops [Example: location of the project, types of value-added products, production unit, process of production, quality, marketing and economics]	10

Note: The school may develop other Projects as per their needs, choices or available resources.