College of Agriculture
NAVSARI AGRICULTURAL UNIVERSITY
WAGHAI (DANGS) - 394 730 (GUJARAT)

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::જાહેરનામુ::

આથી સંબધકર્તા સર્વેને જણાવવાનુ કે તા.૨૭.૧૨.૨૦૧૭ના રોજ નવસારી કૃષિ યુનિવર્સિટીની ૩૭મી વિદ્યા પરિષદ ની બેઠકના મુદ્દા નંબર ૩૭.૨૦ થી નીચે મુજબ થયેલ ઠરાવનો અમલ તાત્કાલિક અસરથી કરવાનો રહેશે.

"It is resolved to approve the 5th Dean Committee recommendation in Agriculture Faculty (UG) in NAU, Navsari from Academic year 2017-18 as per annexure A, B and C.

ડીન અને આચાર્ય

જા.નં નકૃયુ/કૃમવ/એકેડેમીક/251-280/ ૨૦૧૮
વઘઈ તા. ૩૧.૦૧.૨૦૧૮

નકલ સવિનય રવાના જાણ સારુ:
૧. વિદ્યા પરિષદના તમામ સભ્યશ્રીઓ તરફ
૨. યુનિવર્સિટીના તમામ અધિકારીશ્રીઓ તરફ **(વેબ પરિપત્ર)**
૩. અત્રેની યુનિવર્સિટીના તમામ આચાર્યશ્રીઓ તરફ
૪. તમામ યુનિટહેડ/ યુનિટ અધિકારીશ્રીઓ તરફ **(વેબ પરિપત્ર)**
૫. કુલસચિવશ્રી, આણંદ/ જુનાગઢ/ સરદાર કૃષિ યુનિવર્સિટી

નકલ સવિનય રવાના:
૧. કુલસ ચિવશ્રી , નવસારી કૃષિ યુનિવર્સિટી, નવસારી
૨.સંશોધન નિયામકશ્રી , નવસ ારી કૃષિ યુ નિવર્સિટી, નવસ ારી

Appendix-A

Discipline-wise courses B. Sc. (Hon.) Agriculture

Summary of implementation of 5th Deans' syllabus for Agriculture

Sr. No.	Subject as suggested by 5th Deans'	Approved by 45th Meeting of Academic Council	Modification made in the approved syllabus	Remarks if any
1.	Agronomy	13+10=23	13+10=23	No Change
2.	Soil Science & Agricultural Chemistry	6+5=11	6+3=9	Removed one course Ag. Chem. 4.4 Soil, Plant and Water Testing 2 (0+2)
3.	Genetics & Plant Breeding	11+7=18	10+6=16	GPB1.1 Introductory Botany renamed as Introductory Biology 2 (1+1) Removed One Course GPB 6.8 Commercial Plant Breeding of 2(1+1)
4.	Entomology	8+5=13	7+4=11	• Ag. Ento. 5.4 Pest of Field Crops and Stored Grains and their Management 3(2+1) will be as Ag. Ento. 5.4 Pests of Crops and Stored Grain and their Management with 1 credit enhancement. *i.e* 4(3+1). • Removed One Course Ento. 6.5 Pests of Horticultural Crops and their Management of 3(2+1) and merged its content in Ag. Ento. 5.4 Pests of Crops and Stored Grain and their Management
5.	Plant Pathology	8+5=13	8+5=13	No Change
6.	Agricultural Economics	8+3=11	8+3=11	No Change
7.	Agricultural Extension	6+3=9	6+3=9	No Change
8.	Statistics, Computer Application &I.P.R.	4+2=6	4+2=6	No Change
9.	Agricultural Engineering	4+4=8	4+4=8	No Change
10.	Horticulture	6+6=12	7+6=13	Hort.6.6: Landscaping shifted to fifth sem. as Hort. 5.5 with increase in 1 credit i.e. 3 (2+1) instead of 2 (1+1)
11.	Biochemistry / Physiology / Microbiology/ Environmental Sciences/ Biotechnology	8+5=13	10+6=16	Included one course of Ag. Micro 6.2 Biopesticides & Biofertilizers 3(2+1) from optional courses.
12.	Food Science	(-2)	-	No change
13.	Animal Production	3+2=5	3+2=5	No Change
14.	Language	2+2= 4	1+1=2	Removed one course Eng 2.2 English for Special Purpose 2(1+1)
	Total	**146 (87+59)**	**142 (87+55)**	
15.	Remedial Courses	2+0=2	2+0=2	No Change
16.	Non-Gradial Courses	1+4=5 NC	1+2=3 NC	Reduced 2 Non-Credits of PE
	Total	**148+5 NC**	**144+3 NC**	
17.	Rural Agricultural Work Experience (RAWE) and Agro-Industrial Attachment (AIA) includes Exposure Tour course ET 7.6 (0+2)	0+20=20	0+20=20	No Change

18.	Experiential Learning Program (ELP)/ Hands On Training (HOT)	0+20=20	0+20=20	No Change
	Total	**148+5+40=193**	**144+3+40=187**	
Grand total		**193 *i.e.* (188+5 NC)**	**187 *i.e.* (184+3 NC)**	4+2 NC = Total 6 Credits reduced

Appendix-B

Details of changes made in Syllabus of B. Sc. (Hons.) Agriculture

Sr. No.	Approved in 45th meeting of Academic Council	Suggested change in the syllabus / Remark
1.	**GPB 1.1 Introductory Botany Credit hours: (1+1=2)** **Theory** Introduction and characteristics of plant; Concept of plant cells, plant tissue and plant organs; Plant habits: annuals, biennials, perennials; Seed and seed germination; Morphology and Micro-morphology of flowering plants. Binomial nomenclature and classification of plants;Introduction to plant taxonomy and plant systematic. **Practical** Study of flowering plants; Root, stem and leaf and their modifications. Inflorescence, flower and fruits. Internal structure of root, stem and leaf; Description of plants:Malvaceae, Fabaceae, Cucurbitaceae, Brassicaceae, Euphorbiaceae, Apiaceae, Solanaceae, Asteraceae, Poaceae and Liliaceae.	**GPB 1.1Introductory Biology Credit hours: (1+1=2)** **Theory** Introduction to the living world, diversity and characteristics of life, origin of life, Evolution and Eugenics. Introduction and characteristics of plant, Binomial nomenclature and classification Cell and cell division. Morphology and Micro-morphology of flowing plants. Seed and seed germination. Introduction to plant taxonomy and plant systematic. Role of animals in agriculture. **Practical** Morphology of flowering plants – root, stem and leaf and their modifications. Inflorescence, flower and fruits. Cell, tissues & cell division. Internal structure of root, stem and leaf. Study of specimens and slides. Description of plants - Malvaceae, Fabaceae, Cucurbitaceae, Brassicaceae, Euphorbiaceae, Apiaceae, Solanaceae, Asteraceae, Poaceae and Liliaceae..
2.	**Eng. 2.2 English for Special PurposeCredit Hours: (1+1=2)**	**Removed**
3.	**Ag. Chem. 4.4 Soil, Plant and Water Testing Credit Hours: (0+2=2) (IVth sem.)**	**Removed**
4.	**Ag.Ento 5.4 Pests of Field Crops and Stored Grains and their Management Credit hours: 3 (2+1)** **Theory** General account on nature and type of damage by different arthropods pests. Scientific name, order, family, host range, distribution, identification, biology and bionomics, nature of damage, and management of insect and non-insect pests of paddy, sorghum, maize,Pearl millet, ragi*Eleucinecoracana*), wheat, sugarcane, cotton, sunnhemp, pulses, groundnut, castor, gingely, safflower, sunflower, mustard, soybean**,**cumin, fennel, Fenugreek, tobacco etc. Common	**Ag. Ento 5.4 Pests of Crops and Stored Grains and their Management 4 (3+1)** **Theory** General account on nature and type of damage by different arthropods pests. Scientific name, order, family, host range, distribution, biology and bionomics, nature of damage, and management of major pests and scientific name, order, family, host range, distribution, nature of damage and control practice other important arthropod pests of various field crops, vegetable crops, fruit crops, plantation crops, ornamental crops, spices and condiments. Factors affecting losses of stored grain and role of physical, biological, mechanical and chemical factors

	phytophagous mites, rodents, snail, slug, crab and bird pests. Stored grain pests:Coleopteran and Lepidopteran pests, their biology and damage, preventive and curative methods. **Practical** Identification of pests, their damage symptoms and management of rice and pearl millet; sorghum, 5.maize and wheat; sugarcane; cotton; pulses; tobacco; cumin, fennel, fenugreek and groundnut, sesame, sunflower; castor, mustard, soybean and safflower; Identification of common phytophagous mites and their morphological characters; Identification of rodents and bird pests.Visit to Indian Storage Management and Research Institute, Hapur and Quality Laboratory, Department of Food., Delhi/ Visit to nearest FCI/civil supplies godowns.Identification of storage pests, nature of damage, management and storage structures.	in deterioration of grain. Insect pests, mites, rodents, birds and microorganisms associated with stored grain and their management. Storage structure and methods of grain storage and fundamental principles of grain store management. **Practical** Identification of different types of damage. Identification and study of life cycle and seasonal history of various insect pests attacking crops and their produce: (a) Field Crops; (b) Vegetable Crops; (c) Fruit Crops; (d) Plantation, gardens, Narcotics, spices & condiments. Identification of insect pests and Mites associated with stored grain. Determination of insect infestation by different methods. Assessment of losses due to insects. Calculations on the doses of insecticides application technique. Fumigation of grain store / godown. Identification of rodents and rodent control operations in godowns. Identification of birds and bird control operations in godowns. Determination of moisture content of grain. Methods of grain sampling under storage condition. Visit to Indian Storage Management and Research Institute, Hapur and Quality Laboratory, Department of Food., Delhi. Visit to nearest FCI godowns.
6.	**Ag. Ento. 6.5 Pests of Horticultural Crops and their Management Credit hours: 3 (2+1)**	Removed and content included in **Ag. Ento. 5.4**
7.	**GPB 6.8 Commercial Plant Breeding Credit hours: (1+1=2)**	**Removed**
8.	**Horti 6.6 Landscaping Credit hours : 2 (1+1)** **Theory** **Importance and scope of landscaping. Principles of landscaping, garden styles and types, terrace gardening, vertical gardening, garden components, adornments, lawn making, rockery, water garden, walk-paths, bridges, other constructed features etc. gardens for special purposes. Trees: selection, propagation, planting schemes, canopy management, shrubs and herbaceous perennials: selection, propagation, planting schemes, architecture. Climber and creepers: importance, selection-, propagation, planting, Annuals: selection, propagation, planting scheme, Other garden plants: palms, ferns, grasses and cacti succulents. Pot plants: selection, arrangement, management. Bio-aesthetic planning: definition, need, planning; landscaping of urban and rural areas, Peri-urban landscaping, Landscaping of schools, public places like bus station, railway station, townships, river banks, hospitals, play grounds, airports, industries, institutions. Bonsai: principles and management, lawn: establishment and maintenance. CAD application** **Practical** **Identification of trees, shrubs, annuals, pot plants; Propagation of trees, shrubs, climbers, creepers and**	**Hort.6.6: Landscaping shifted to fifth Sem. as Hort. 5.5 with increase in 1 credit i.e. 3 (2+1) instead of 2 (1+1)** **Theory** **Importance and scope of landscaping. Principles of landscaping, garden styles and types, terrace gardening, vertical gardening, garden components, adornments, lawn making, rockery, water garden, walk-paths, bridges, other constructed features etc. gardens for special purposes. Trees: selection, propagation, planting schemes, canopy management, shrubs and herbaceous perennials: selection, propagation, planting schemes, architecture. Climber and creepers: importance, selection-, propagation, planting, Annuals: selection, propagation, planting scheme, Other garden plants: palms, ferns, grasses and cacti succulents. Pot plants: selection, arrangement, management. Bio-aesthetic planning: definition, need, planning; landscaping of urban and rural areas, Peri-urban landscaping, Landscaping of schools, public places like bus station, railway station, townships, river banks, hospitals, play grounds, airports, industries, institutions. Bonsai: principles and management, lawn: establishment and maintenance. CAD application** **Practical** **Identification of trees, shrubs, annuals, pot plants; Propagation of trees, shrubs, climbers, creepers and annuals, care and maintenance of plants, potting and**

	annuals, care and maintenance of plants, potting and repotting, identification of tools and implements used in landscape design, training and pruning of plants for special effects, lawn establishment and maintenance, layout of formal gardens, informal gardens, special type of gardens (sunken garden, terrace garden, rock garden) and designing of conservatory and lathe house. visit to important gardens/ parks/ institutes.	**repotting, identification of tools and implements used in landscape design, training and pruning of plants for special effects, lawn establishment and maintenance, layout of formal gardens, informal gardens, special type of gardens (sunken garden, terrace garden, rock garden) and designing of conservatory and lathe house. visit to important gardens/ parks/ institutes.**

9.	**Ag. Micro 6.2 Course title: Biopesticides & Biofertilizers 3 (2+1)**	**Added from optional/elective course** **Theory** History and concept of biopesticides. Importance, scope and potential of biopesticide. Definitions, concepts and classification of biopesticides viz. pathogen, botanical pesticides, and biorationales. Mass production technology of bio-pesticides. Virulence, pathogenicity and symptoms of entomopathogenic pathogens and nematodes. Methods of application of biopesticides. Methods of quality control and Techniques of biopesticides. Impediments and limitation in production and use of biopesticide. Biofertilizers - Introduction, status and scope. Structure and characteristic features of bacterial biofertilizers- *Azospirillum*, *Azotobacter*, *Bacillus*, *Pseudomonas*, *Rhizobium* and *Frankia*; Cynobacterialbiofertilizers- *Anabaena*, *Nostoc*, Hapalosiphon and fungal biofertilizers- AM mycorrhiza and ectomycorhiza. Nitrogen fixation -Free living and symbiotic nitrogen fixation. Mechanism of phosphate solubilization and phosphate mobilization, K solubilization. Production technology: Strain selection, sterilization, growth and fermentation, mass production of carrier based and liquid biofertiizers. FCO specifications and quality control of biofertilizers. Application technology for seeds, seedlings, tubers, sets etc. Biofertilizers -Storage, shelf life, quality control and marketing. Factors influencing the efficacy of biofertilizers. Practical Isolation and purification of important biopesticides: *Trichoderma Pseudomonas, Bacillus, Metarhyzium* etc. and its production. Identification of important botanicals. Visit to biopesticide laboratory in nearby area. Field visit to explore naturally infected cadavers. Identification of entomopathogenic entities in field condition. Quality control of biopesticides. Isolation and purification of *Azospirillum ,Azotobacter, Rhizobium*, P-solubilizers and cyanobacteria. Mass multiplication and inoculums production of biofertilizers. Isolation of AM fungi -Wet sieving method and sucrose gradient method. Mass production of AM inoculants.

Appendix-C

Semester wise Course Distribution
Faculty of Agriculture, NAU, Navsari as per 5th Deans' Committee

First Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	Agron 1.1	Agricultural Heritage	1+0	1	0	1
2.	Ag. Chem. 1.1	Fundamental of Soil Science	2+1	2	1	3
3.	Ag. Met. 1.1	Introductory Agro meteorology & Climate Change	1+1	1	1	2
4.	Ag. Micro. 1.1	Agricultural Microbiology	1+1	1	1	2
5.	Ag. Stat. 1.1	Agricultural Informatics	2+1	2	1	3
6.	GPB 1.1	Introductory Biology	1+1	1	1	2
7.	Hort. 1.1	Fundamentals of Horticulture	1+1	1	1	2
8.	Pl. Path. 1.1	Fundamentals of Plant Pathology	2+1	2	1	3
9.	Eng. 1.1	Comprehension and Communication Skills in English	1+1	1	1	2
10.	Maths 1.1	Elementary Mathematics	2+0	2	0	2
11.	PE	NSS/NCC/Physical Education & Yoga Practices (Non-gradial)	-	-	-	-
		Total		**14**	**8**	**22**

Second Semester

Sr. No.	Course No.	Total	Credit	Theory	Practical	Total
1.	Agron2.2	Fundamentals of Agronomy	3+1	3	1	4
2.	Ag. Chem. 2.2	Manures, Fertilizers and Soil Fertility Management	2+1	2	1	3
3.	Ag. Stat. 2.2	Statistical Methods	2+1	2	1	3
4.	Ag. Econ 2.1	Fundamentals of Agricultural Economics	2+0	2	0	2
5.	Ag. Engg.2.1	Introductory Soil and Water Conservation Engineering	1+1	1	1	2
6.	Biochem. 2.1	Fundamentals of Plant Biochemistry	2+1	2	1	3
7.	GPB 2.2	Fundamentals of Genetics	2+1	2	1	3
8.	Hort.2.2	Production Technology for Fruit and Plantation Crops	1+1	1	1	2
9.	Pl. Path. 2.2	Introductory Plant Nematology	1+1	1	1	2
10	HVE 2.1*	Human Value &Ethics (Non-gradial)	1+0	1*	0*	1*
11.	PE 2.1*	NSS/NCC/Physical Education & Yoga Practices(Non-gradial)	0+1*	0*	1*	1*
		Total		**16+1***	**8+1***	**24+2***

*** Non-gradial courses**

Third Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	Agron3.3	Crop Production Technology-I (*Kharif*Crops)	1+1	1	1	2
2.	Ag. Chem. 3.3	Problematic Soils and their Management	2+1	2	1	3
3.	Ag. Ento..3.1	Fundamentals of Entomology	2+1	2	1	3
4.	Ag. Econ.3.2	Agricultural Finance and Co-operation	2+1	2	1	3
5.	Ag. Engg.3.2	Farm Machinery and Power	1+1	1	1	2
6.	Ag. Ext. 3.1	Fundamentals of Agricultural Extension Education	2+1	2	1	3
7.	GPB 3.3	Fundamentals of Plant Breeding	2+1	2	1	3
8.	Hort.3.3	Production Technology for Vegetables and Spices	1+1	1	1	2
9.	Pl. Phy 3.1	Fundamentals of Crop Physiology	2+1	2	1	3
10.	PE	NSS/NCC/Physical Education & Yoga Practices(Non-gradial)	--	-	-	-
		Total		**15**	**9**	**24**

Fourth Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	Agron.4.4	Crop Production Technology-II (Rabi Crops)	1+1	1	1	2
2.	Agron. 4.5	Weed Management	2+1	2	1	3
3.	Ag. Ento. 4.2	Principles of Integrated Pest Management	1+1	1	1	2
4.	Ag. Ento. 4.3	Management of Beneficial Insects	1+1	1	1	2
5.	Ag. Econ. 4.3	Agricultural Marketing, Trade and Prices	2+1	2	1	3
6.	Ag. Engg.4.3	Renewable Energy and Green Technology	1+1	1	1	2
7.	Ag. Ext. 4.2	Rural Sociology and Educational Psychology	2+0	2	0	2
8.	Pl. Path. 4.3	Principles of Integrated Disease Management	1+1	1	1	2
9.	GPB 4.4	Principles of Seed Technology	2+1	2	1	3
10.	GPB 4.5	Intellectual Property Rights	1+0	1	0	1
11.	Hort.4.4	Production Technology for Ornamental Crops, MAP and Landscaping	1+1	1	1	2
12.	PE 4.2*	NSS/NCC/Physical Education & Yoga Practices(Non-gradial)	0+1*	0*	1*	1*

Total		**15**	**9+1***	**24+1***

*** Non-gradial courses**

Fifth Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	Agron.5.6	Farming System and Sustainable Agriculture	1+0	1	0	1
2.	Agron. 5.7	Geoinformaitcs and Precision Farming	1+1	1	1	2
3.	Agron. 5.8	Practical Crop Production-I (*Kharif* Crops)	0+1	0	1	1
4.	Biotech 5.1	Introductory Biotechnology	1+1	1	1	2
5.	Ag. Ento. 5.4	Pest of Crops and Stored Grains and their Management	3+1	3	1	4
6.	Ag. Engg.5.4	Protected Cultivation and Secondary Agriculture	1+1	1	1	2
7.	Ag. Ext. 5.3	Communication Skills and Personality Development	1+1	1	1	2
8.	Pl. Path. 5.4	Diseases of Field and Horticultural Crops and Their Management-I	2+1	2	1	3
9.	GPB 5.6	Crop Improvement-I	1+1	1	1	2
10.	LPM 5.1	Ruminant Production and Management	2+1	2	1	3
11.	Hort.5.5	Landscaping	2+1	2	1	3
Total				**15**	**10**	**25**

Sixth Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	Agron. 6.9	Principles of Organic Farming	1+1	1	1	2
2.	Agron. 6.10	Rainfed Agriculture and Watershed Management	1+1	1	1	2
3.	Agron. 6.11	Practical Crop Production-II (Rabi Crops)	0+1	0	1	1
4.	Ag. Econ 6.4	Farm Management, Production and Resource Economics	2+1	2	1	3
5.	Ag. Ext. 6.4	Entrepreneurship Studies and Business Communication	1+1	1	1	2
6.	Pl. Path. 6.4	Disease of Field and Horticultural Crops and their Management-II	2+1	2	1	3
7.	GPB 6.7	Crop Improvement -II	1+1	1	1	2
8.	Hort.6.6	Post-harvest Management and Value Addition of Fruits and Vegetables	1+1	1	1	2
9.	LPM 6.2	Poultry Production and Management	1+1	1	1	2
10.	Envs. 6.1	Environmental studies and Disaster Management	2+1	2	1	3

11.	Ag. Micro 6.2	Biopesticides & Biofertilizers	2+1	2	1	3
		Total		**14**	**11**	**25**

Seventh Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	RAWE/Student READY programme	Rural Agricultural Work Experience (RAWE) and Agro-Industrial Attachment (AIA) includes Exposure Tour course ET 7.6 (0+2)	0+20	0	20	20

Eighth Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	Total
1.	ELP/HOT	Experiential Learning Program (ELP)/ Hands On Training (HOT)	0+20	0	20	20
		Grand Total	**144+3 NC+40=187 (4+2 NC=Total 6 credits reduced)**			