ANAND - 388 110 (Gujarat)

)r. K. P. Patel
Principal and Dean

☎ / **Fax** : 02692-261076(O)
e-mail : deanagri@aau.in

Approval of discipline-wise corre credit load as per ICAR 5th De Committee recommendations.

Read: Minutes of the 46th Meeting of Academic Council

NOTIFICATION

It is hereby notified to all concerned that vide item No. 46.8 in the minutes o the 46th Meeting of the Academic Council of the Anand Agricultural University hel on 21.07.2017, the council has resolved as under.

"It is resolved that the member of Academic Council approves the discipline wise credit load distribution corrected as per 5th Deans' recommendations and ICAI suggestions for its implementation in the B.Sc. (Hons.) Agri. course as appended i Appendix- A, B and C for its implementation in Agriculture faculty of Anan Agricultural University, Anand after incorporating suggestions of the Deans meetin with ICAR held on May 25-26, 2017 for the students admitted from the academic yea 2017-18."

Encl: Appendix A, Appendix B and Appendix C

No. AAU/BACA/TO/ 540 /2017
Date: 02.08.2017

(K. P. Patel)
Principal and Dean, BACA
AAU, Anand

Copy with respect to:
1. All the members of the Academic Council of AAU, Anand
2. All Officers of Anand Agricultural University, Anand
3.The Registrar, AAU, Anand

Copy to:
1. PS to Hon'ble Vice Chancellor, AAU, Anand
2. All the HoDs, BACA, Anand,
3. Academic branch, BACA/Horticulture College
4. Notification file of BACA/Horticulture College

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. Che Soil, Plant and Water Testing
3.	Genetics & Plant Breeding	11+7=18	10+6=16	GPB1.1 Introductory Botany as Introductory Biology 2 (1+ Removed One Course GPB 6 Commercial Plant Breeding o
4.	Entomology	8+5=13	7+4=11	• Ag. Ento. 5.4 Pest of Field (Stored Grains and their Ma 3(2+1) will be as Ag. Ento. of Crops and Stored Grain Management with I enhancement. *i.e* 4(3+1). • Removed One Course Ento. of Horticultural Crops a Management of 3(2+1) an its content in Ag. Ento. 5.4 Crops and Stored Grain 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 shifte sem. as Hort. 5.5 with increas credit i.e. 3 (2+1) instead of 2
11.	Biochemistry / Physiology / Microbiology/ Environmental Sciences/ Biotechnology	8+5=13	10+6=16	Included one course of Ag. M Biopesticides & Biofertilizers 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 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 P
	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

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

Approved in 45th meeting of Academic Council	Suggested change in the syllabus / Remark
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 hour** **Theory** Introduction to the living world, div characteristics of life, origin of life, Ev Eugenics. Introduction and characteristics Binomial nomenclature and classification C division. Morphology and Micro-morphology plants. Seed and seed germination. Introduct taxonomy and plant systematic. Role of agriculture. **Practical** Morphology of flowering plants – root, ste and their modifications. Inflorescence, flowe Cell, tissues & cell division. Internal struct stem and leaf. Study of specimens Description of plants - Malvaceae, Cucurbitaceae, Brassicaceae, Euphorbiaceae Solanaceae, Asteraceae, Poaceae and Liliacea
Eng. 2.2 English for Special PurposeCredit Hours: (1+1=2)	**Removed**
Ag. Chem. 4.4 Soil, Plant and Water Testing Credit Hours: (0+2=2) (IV th sem.)	**Removed**
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 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	**Ag. Ento 5.4 Pests of Crops and Stored their Management 4 (3+1)** **Theory** General account on nature and type of different arthropods pests. Scientific name, o host range, distribution, biology and bionor of damage, and management of major scientific name, order, family, host range, nature of damage and control practice oth arthropod pests of various field crops, vege fruit crops, plantation crops, ornamental c and condiments. Factors affecting losses of and role of physical, biological, mecl chemical factors in deterioration of grain. mites, rodents, birds and microorganisms ass stored grain and their management. Storage s methods of grain storage and fundamental grain store management. **Practical** Identification of different types o Identification and study of life cycle a history of various insect pests attacking cr produce: (a) Field Crops; (b) Vegetable

and Quality Lab ratory, Department of Food., Visit to nearest FCI/civil supplies vns.Identification of storage pests, nature of ge, management and storage structures.	& condiments. Identification of insect pests and N associated with stored grain. Determination of i infestation by different methods. Assessment of l due to insects. Calculations on the doses of insecti application technique. Fumigation of grain st godown. Identification of rodents and rodent co operations in godowns. Identification of birds and control operations in godowns. Determinatio moisture content of grain. Methods of grain sam under storage condition. Visit to Indian St Management and Research Institute, Hapur Quality Laboratory, Department of Food., Delhi. to nearest FCI godowns.
nto. 6.5 Pests of Horticultural Crops and their gement Credit hours: 3 (2+1)	Removed and content included in **Ag. Ento. 5.4**
6.8 Commercial Plant Breeding Credit : (1+1=2)	**Removed**
6.6 Landscaping Credit hours : 2 (1+1) ry tance and scope of landscaping. Principles of :aping, garden styles and types, terrace gardening, al gardening, garden components, adornments, making, rockery, water garden, walk-paths, :s, other constructed features etc. gardens for l purposes. Trees: selection, propagation, planting ies, canopy management, shrubs and herbaceous nials: selection, propagation, planting schemes, ecture. Climber and creepers: importance, ion-, propagation, planting, Annuals: selection, gation, planting scheme, Other garden plants: , ferns, grasses and cacti succulents. Pot plants: ion, arrangement, management. Bio-aesthetic ing: definition, need, planning; landscaping of and rural areas, Peri-urban landscaping, caping of schools, public places like bus station, y station, townships, river banks, hospitals, play ds, airports, industries, institutions. Bonsai: ples and management, lawn: establishment and enance. CAD application **ical** fication of trees, shrubs, annuals, pot plants; gation of trees, shrubs, climbers, creepers and ls, care and maintenance of plants, potting and ing, identification of tools and implements used in :ape design, training and pruning of plants for l effects, lawn establishment and maintenance, t of formal gardens, informal gardens, special type dens (sunken garden, terrace garden, rock garden) esigning of conservatory and lathe house. visit to tant gardens/ parks/ institutes.	**Hort.6.6: Landscaping shifted to fifth Sem. as Hor with increase in 1 credit i.e. 3 (2+1) instead of 2 (1+1)** **Theory** Importance and scope of landscaping. Principle landscaping, garden styles and types, terrace garde vertical gardening, garden components, adornm lawn making, rockery, water garden, walk-p bridges, other constructed features etc. gardens special purposes. Trees: selection, propagation, pla schemes, canopy management, shrubs and herbac perennials: selection, propagation, planting sche architecture. Climber and creepers: import selection-, propagation, planting, Annuals: selec propagation, planting scheme, Other garden pl palms, ferns, grasses and cacti succulents. Pot pl selection, arrangement, management. Bio-aest planning: definition, need, planning; landscapin urban and rural areas, Peri-urban landsca Landscaping of schools, public places like bus st railway station, townships, river banks, hospitals, grounds, airports, industries, institutions. Bc principles and management, lawn: establishment maintenance. CAD application **Practical** Identification of trees, shrubs, annuals, pot p Propagation of trees, shrubs, climbers, creepers annuals, care and maintenance of plants, potting repotting, identification of tools and implements us landscape design, training and pruning of plant special effects, lawn establishment and mainten layout of formal gardens, informal gardens, special of gardens (sunken garden, terrace garden, rock ga and designing of conservatory and lathe house. vi important gardens/ parks/ institutes.

Biofertilizers 3 (2+1)	**Theory** History and concept of biopesticides. Imp and potential of biopesticide. Definitions, classification of biopesticides viz. patho pesticides, and biorationales. Mass technology of bio-pesticides. Virulence, and symptoms of entomopathogenic p nematodes. Methods of application of Methods of quality control and T biopesticides. Impediments and limitation and use of biopesticide. Biofertilizers - Introduction, status and sc and characteristic features of bacterial biofertilizers- *Azospirillum, Azotobact* *Pseudomonas, Rhizobium* and Cynobacterialbiofertilizers- *Anabaenc* Hapalosiphon and fungal biofertilizers- A and ectomycorhiza. Nitrogen fixation -F symbiotic nitrogen fixation. Mechanism solubilization and phosphate mob solubilization. Production technology: St sterilization, growth and fermentation, m of carrier based and liquid biofe specifications and quality control of Application technology for seeds, seedlin etc. Biofertilizers -Storage, shelf life, qual marketing. Factors influencing the biofertilizers. Practical Isolation and purification of important *Trichoderma Pseudomonas, Bacillus, Me* and its production. Identification of import Visit to biopesticide laboratory in nearby a to explore naturally infected cadavers. Id entomopathogenic entities in field conc control of biopesticides. Isolation and purification of *Azospirillum* *Rhizobium*, P-solubilizers and cyanob multiplication and inoculums pr biofertilizers. Isolation of AM fungi method and sucrose gradient method. M of AM inoculants.

Semester wise Course Distribution
Faculty of Agriculture, AAU, Anand as per 5th Deans' Committee

First Semester

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

Second Semester

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

*** Non-gradial courses**

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

Semester

Course No.	Title of course	Credit	Theory	Practical	Total
Agron.4.4	Crop Production Technology-II (Rabi Crops)	1+1	1	1	2
Agron. 4.5	Weed Management	2+1	2	1	3
Ag. Ento. 4.2	Principles of Integrated Pest Management	1+1	1	1	2
Ag. Ento. 4.3	Management of Beneficial Insects	1+1	1	1	2
Ag. Econ. 4.3	Agricultural Marketing, Trade and Prices	2+1	2	1	3
Ag. Engg.4.3	Renewable Energy and Green Technology	1+1	1	1	2
Ag. Ext. 4.2	Rural Sociology and Educational Psychology	2+0	2	0	2
Pl. Path. 4.3	Principles of Integrated Disease Management	1+1	1	1	2
GPB 4.4	Principles of Seed Technology	2+1	2	1	3
GPB 4.5	Intellectual Property Rights	1+0	1	0	1
Hort.4.4	Production Technology for Ornamental Crops, MAP and Landscaping	1+1	1	1	2
PE 4.2*	NSS/NCC/Physical Education & Yoga Practices(Non-gradial)	0+1*	0*	1*	1*
	Total		**15**	**9+1***	**24+1***

gradial courses

Course No.	Title of course	Credit	Theory	Practical	Total
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

I Semester

Course No.	Title of course	Credit	Theory	Practical	Total
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)**			

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

Sixth Semester

Sr. No.	Course No.	Title of course	Credit	Theory	Practical	T
1.	Agron. 6.9	Principles of Organic Farming	1+1	1	1	
2.	Agron. 6.10	Rainfed Agriculture and Watershed Management	1+1	1	1	
3.	Agron. 6.11	Practical Crop Production-II (Rabi Crops)	0+1	0	1	
4.	Ag. Econ 6.4	Farm Management, Production and Resource Economics	2+1	2	1	
5.	Ag. Ext. 6.4	Entrepreneurship Studies and Business Communication	1+1	1	1	
6.	Pl. Path. 6.4	Disease of Field and Horticultural Crops and their Management-II	2+1	2	1	
7.	GPB 6.7	Crop Improvement -II	1+1	1	1	
8.	Hort.6.6	Post-harvest Management and Value Addition of Fruits and Vegetables	1+1	1	1	
9.	LPM 6.2	Poultry Production and Management	1+1	1	1	
10.	Envs. 6.1	Environmental studies and Disaster Management	2+1	2	1	
11.	Ag. Micro 6.2	Biopesticides & Biofertilizers	2+1	2	1	
		Total		**14**	**11**	