

Faculty of Civil Engineering

B. E. AGRICULTURE ENGINEERING

SEMESTER – II (R 2013)

AI6211 Agricultural Engineering Practices Lab

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity Required	Quantity available	Deficiency %
1	Rain gauge – Recording type	1 each		
2	Non-recording type	1		
3	Automatic Weather Station	1		
4	Open Pan Evaporimeter	1		
5	Sunshine recorder	1 each		
6	Hygrometer	1		
7	Wind vane	1		
8	Anemometer	1		
9	Stevenson"s screen	1		
10	Seed growth germinator	1 no		
11	Hot air oven	1 each		
12	Soil moisturemeter	1		
13	Tensiometer (for 3 varying depths)	1		
14	Soil auger	1		
15	Weighing balance	1		
16	pH meter	1 no		
17	EC and TDS meter	1		
18	Drip irrigation and Sprinkler irrigation setup with all features	1		
19	Mouldboard plough	1 each		
20	Disc plough	1		
21	Disc harrow	1		
22	Rotovator	1		
23	Single tyne and multi tyne cultivator	1		

24	Bund former	1		
25	Sub soiler	1		
26	Conoweeder	1		
27	Seed drill	1		
28	Sprayers	1		
29	Bucket elevator	1 each		
30	Screw conveyor	1		
31	Belt separator	1		
32	Belt conveyor	1		
33	Fluidized bed dryer	1		
34	Extruder	1		
35	Groundnut decorticator	1		
36	Paddy thresher	1		
37	Bio gas plant	1 each		
38	Wind mill	1		
39	Solar pump	1		
40	Solar dryer	1		

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SEMESTER – II (R 2013)

AI6212 CROP HUSBANDRY LABORATORY

Requirements for a batch of 30 students

S. No.	Description of Equipment	Quantity Required	Quantity available	Deficiency %
1	A wet land / group of students (Student Project).	1.5 acres – wet land (for student project)		
2	Garden land for a minimum of 5 cents area for each student (Student Project).	1.5 acres – garden land (for student project)		
3	A wet land / group of students.	1 acre – wet land and (for demonstration purpose)		
4	Garden land for a minimum of 5 cents area for each	1 acre garden land (for demonstration purpose)		
5	A open well / borewell as water source to support cultivation	1 open well and 3 bore wells with sufficient yield to take up cultivation and demonstration.		

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SEMESTER – III (R 2013)
AI6311 Surveying Laboratory

Requirements for a batch of 30 students

S. No.	Description of Equipment	Quantity Required	Quantity available	Deficiency %
1.	Chain link	10		
2.	Compass	10		
3.	Theodolite	10		
4.	Dumpy Level	10		
5.	Plane Table	10		
6.	Ranging rods	30		
7.	Leveling Staff	10		
8.	Measuring tape – 30m	10		
9.	Other accessories required for surveying and leveling	10		

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SEMESTER – III (R 2013)
AI6312 FLUID MECHANICS LABORATORY
Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Rotometer	1 no		
2	Venturimeter	1 no		
3	Orificemeter	1 no		
4	Pitot tube	1 no		
5	Bernoulli's theorem apparatus	1 no		
6	Triangular notch and Rectangular notch	1 each		
7	Coefficient of friction apparatus	1		
8	Pipe setup with bends	1		
9	fittings and elbows for estimating minor losses	1		
10	Centrifugal pump	1 each		
11	Reciprocating pump	1		
12	Submersible pump	1		
13	Jet pump	1		
14	Collecting tank, Stop watch	1 no		

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SEMESTER – IV (R 2013)

AI6411 Drawing of Farm Structures

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1.	Software for CAD	1		
2.	Model for stall barn	1		
3.	Model of loose housing	1		
4.	Models of milk parlours	1		
5.	Model of poultry house	1		
6.	Models of sheep / goat house	1		
7.	Models of storage structures – over ground and underground silos, hay storage	1		
8.	Models of farm fencing systems	1		
9.	Models of farm fencing systems 1. Tractor 2. Power Tiller 3. Thresher 4. Harvester and all other farm machinery	1		
10.	Model of Biogas Plant	1		
11.	Models of septic tank and sanitary structures	1		
12.	Model of rural road / farm road and culvert	1		

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SEMESTER – IV (R 2013)

CE6411 STRENGTH OF MATERIALS LABORATORY

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1.	UTM of minimum 400 kN capacity	1		
2.	Torsion testing machine for steel rods	1		
3.	Izod impact testing machine	1		
4.	Hardness testing machine	1		
5.	Rockwell	1		
6.	Vicker"s	1		
7.	Brinell	1		
8.	Beam deflection test apparatus	1		
9.	Extensometer	1		
10.	Compressometer	1		
11.	Dial gauges	1		
12.	Le Chatelier"s apparatus	2		
13.	Vicat"s apparatus	2		
14.	Mortar cube moulds	10		

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B. E. AGRICULTUREENGINEERING

SEMESTER – V (R 2013)

AI6511 Operation and Maintenance of Farm machinery Laboratory

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Tractor	1 no		
2	Power tiller	1 no		
3	Disc plough	1 no		
4	Disc harrow	1 no		
5	Multi tyne cultivator	1 no		
6	Paddy Transplanter	1 no		
7	Seed drill	1 no		
8	Spayer	1 no		
9	Mower	1 no		
10	Weeder	1 no		
11	Combine harvester	1 no		

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SEMESTER – V (R 2013)

AI6512 POST HARVEST ENGINEERING LABORATORY

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Hot air oven	1 no		
2	Grain moisturemeter	1 no		
3	Porosity apparatus	1 no		
4	Coefficient of friction apparatus	1 no		
5	Angle of repose	1 no		
6	Round type and L type	1 no		
7	Paddy thresher	1 no		
8	Groundnut decorticator sheller	1 no		
9	Maize sheller	1 no		
10	Thin layer dryer	1 no		
11	LSU dryer	1 no		
12	Bucket elevator	1 no		
13	screw conveyor	1 no		
14	Rubber roll sheller	1 no		
15	Oil expeller	1 no		

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SEMESTER – VI (R 2013)

AI6611 CAD for Agricultural Engineering

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Dual Core / i3 Desktop Computer	30		
2	Solid Works / Auto CAD	30 Licenses		
3	Pro -E, Solid Edge Ansys	Demo		

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SEMESTER – VI (R 2013)

GE6674 Communication and Soft skills- Laboratory Based

Requirements for a batch of 30 students

Sl.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1.	Server	1 No.		
	o PIV system			
	o 1 GB RAM / 40 GB HDD			
	o OS: Win 2000 server			
	o Audio card with headphones (with mike)			
	o JRE 1.3			
2.	Client Systems	60 No.		
	o PIII or above			
	o 306 or 512 MB RAM /40 GB			
	o OS: Win 2000			
	o Audio card with headphones (with mike)			
	o JRE 1.3			
3.	Handicam Video Camera (with video lights and mic input)	1 No.		
4.	Television - 29"	1 No.		
5.	Collar mike	1 No.		
6.	Cordless mikes	1 No.		
7.	Audio Mixer	1 No.		
8.	DVD Recorder / Player	1 No.		
9.	LCD Projector with MP3 /CD /DVD provision for audio / video facility	1 No.	Available / Not Available	

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SEMESTER – VI (R 2013)

AI6612 Food Process Engineering Laboratory

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Extruder	1 no		
2	Pasteurizer	1 no		
3	Hot air oven	1 no		
4	Hand refractometer	1 no		
5	Dessicator	1 no		
6	Dean and Stark's apparatus	1 no		
7	Cabinet dryer	1 no		
8	Soxhlet flask	1 no		
9	Distillation column	1 no		
10	Kjeldahl flask	1 no		
11	Distillation apparatus	1 no		
12	Microwave oven	1 no		
13	Cream separator	1 no		
14	Butter churner	1 no		

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SEMESTER – VII (R 2013)

AI6711 GIS LABORATORY FOR AGRICULTURAL ENGINEERS

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Parallan bar	5		
2	Stereo Scope Setup	5		
3	Aerial Photo	5		
4	Satellite Image	5		
5	ILWIS Software Installed	30		
6	Dual Core / i3 Desktop Computer	30		

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SEMESTER – VII (R 2013)

AI6712 Bio-Energy Laboratory

Requirements for a batch of 30 students

S.No.	Description of Equipment	Quantity required	Quantity available	Deficiency %
1	Muffle Furnace	1 no		
2	KVIC Model or Deenbandhu Model Big Gas Plant	1 no		
3	Scrnbbing Unit	1 no		
4	Bio Gas Burner	1 no		
5	BOD Incubator	1 no		
6	COD Apparatus	1 no		
7	Briquetting Machine - Lab Scale	1 no		
8	Gasifier - Lab Scale	1 no		
9	Dual - Fuel Engine	1 no		
10	Charcoal Production Unit	1 no		
11	Solar Water Heater	1 no		