



Nursery Landscape CDE

Purpose

The Nursery Landscape Career Development Event stimulates career interest, encourages proficiency development, and recognizes excellence in nursery practices and landscaping through the agricultural education curriculum. The event includes all aspects of the industry in producing, marketing, utilizing, and maintaining landscape plants in addition to related products, equipment, and services.

The objectives of this event include:

- Identification of landscape plant material and plant disorders;
- Utilization of cultural practices such as growing techniques;
- Design and construction of landscapes; and
- Demonstration of effective written and oral communication skills.

Superintendent

The superintendent for this event is Mrs. Sherilee Deal, Agriculture Education Curriculum Coordinator, 444 Bristol Dr, Statesville, NC 28677. Phone: 704.796.5736, Email: sdeal2@ncsu.edu

Eligibility

This event is open to all FFA chapters and FFA members in good standing. FFA members may not participate in a Career Development Event that leads to a state level event after July 1, following their high school/early college graduation. Members winning a previous state event in this area or that have participated in a previous national event in this area are ineligible. This event will be held during the North Carolina State FFA Convention.

Teams shall consist of three or four members. Four scores will count towards the team total (a three-member team will earn a zero for the 4th score). No alternates are allowed in state events. Any alternate found participating in a state event will result in total team disqualification.

The top three individuals in the regional event are eligible to participate in the state event as individuals regardless of their team placing.

The use or possession of cellular phones or any other mobile electronic communication device is prohibited during any state-level career development event. Any violation of this rule by any team member will result in total team disqualification.

FFA members participating in career development events that require the use of calculators may only use non-programmable/graphing calculators that do not have the ability to communicate with other calculators. Calculators will be screened prior to the start of a CDE for acceptability. Students caught using data stored on a calculator or communicating with other calculators will result in a total team disqualification for the event.



Any member found cheating in any state-level career development event will result in total team disqualification for that event.

The North Carolina FFA Association, in keeping with the FFA mission and purposes, does not permit the use of tobacco products, e-cigarettes, vapes, or Juuls at any FFA facility or at any FFA activity.

At the North Carolina FFA State Convention, participation in more than one FFA CDE event is permitted as long as events are not being held concurrently and no special provisions are required to facilitate participation with the exception that parliamentary procedure and public speaking and parliamentary procedure and Creed speaking which are held concurrently will allow dual participation and special provisions for flighting.

In compliance with the Americans with Disabilities Act, North Carolina FFA will honor requests for reasonable accommodations made by individuals with disabilities. Please direct accommodation requests through the CDE/LDE Accommodation Request [Form](#). If the accommodation can be made for all and/or doesn't provide an unfair advantage, then every effort will be made to provide the accommodation. Requests can be accommodated more effectively if notice is provided at least 10 days before the event.

Middle School Participation

Middle school students and teams may participate in any Career Development Event or Leadership Development Event. The top three middle school participants will be recognized. Middle school participants should designate during registration.

State Career Development Event Participation

The appropriate numbers of teams based on event participation from each region are eligible to compete in the state career development event. The top three individuals in the regional event are eligible to participate in the state event as individuals regardless of their team placing. Teams and individuals advancing to state event participation must be certified by the regional FFA advisor.

Dress Code

Participants are required to follow the North Carolina FFA Career Development Event Dress Code. Participants are allowed to wear long pants, an appropriate shirt with a collar, or an appropriate high school or FFA t-shirt.

The North Carolina FFA Association strives to promote a positive image at all Official FFA Events. The dress code policy was established to address the issue of appropriate attire at all Official FFA Events. Members should adhere to this policy for all events. A ten percent reduction will be applied to all individual scores from a chapter if a participant from that chapter violates the dress code during that career event.



Procedures for Administering the Event

Under no circumstances will any participant be allowed to touch or handle plant materials during the identification portion of the event. Any infraction of this rule will be sufficient cause to give that individual a zero on that phase of the event.

Any communication between participants during the event that would constitute giving help to another individual will result in both individuals getting a zero on that phase of the event. If an individual is suspected of copying someone else's paper, the participant will be given a personal quiet warning and if cheating continues, the one copying would be given a zero on that phase of the event.

To facilitate the holding of the scorecards, participants are allowed and encouraged to bring and use clipboards. These should be submitted to an event official to determine that they are free of written materials that might help a participant in the event. Identification papers and tests will be on different colored paper for each of the two horticulture events.

Regional Event Set-Up

The host school will have the responsibility in setting up the career development event, choosing career development event officials, judges, and materials. Regions may purchase Horticulture CDE #105482 scan sheets for participants to use if they wish. Scan sheets will not be provided from the state for regional use. Students will also be given a copy of the plant list to reference the correct number for bubbling purposes. Students will not need to memorize the Plant ID #.

Part 1: Identification (250 points)

Twenty-five plants will be chosen from the current list of ID plants from the BASE LIST and the NURSERY LANDSCAPE LIST. Each contestant will be assigned a plant to begin the identification portion of the contest. Each contestant will remain at each plant for one minute then progress on to the next plant. No contestant will be permitted to return to a plant for a second time. Each plant will be worth 10 points and no plant will be used twice. Event officials will grade papers. Grading will be done by awarding 10 points for each plant correctly identified. If it is observed that a participant uses the same number on their paper twice, neither number will be counted correct. Only the answer written in the item blank for that plant on the scorecard will be counted. 25 minutes will be given for this portion.

Part 2: Knowledge Test (250 points)

A written knowledge test will consist of 25 multiple choice questions. The same test will be used in both the Floriculture and Nursery Landscape Events. The answer to these questions must be available in at least one of the references on the event reference list. The contestants will be given 25 minutes to complete the test and each question will be valued at 10 points. Copies of written tests will not be made available to teachers until the summer following the events.



Part 3: Practicum (100 points)

Each participant will identify 10 items from Tools & Materials and Disorders. Each item is worth 10 points.

Regional Event Scoring

Maximum Score	600
Identification	250
Knowledge Test	250
Practicum	100

State Event Set-Up

The event coordinator shall be responsible for setting up the event, choosing event officials, judges, and materials. At the state level, students will use the Horticulture CDE #105482 scan sheet to bubble in their answers. Students will also be given a copy of the plant list to reference the correct number for bubbling purposes. Students will not need to memorize the Plant ID #.

Phase 1-

Individual scores will only be calculated using the points obtained during Phase 1.

Part 1: Identification (250 points) – 25 minutes

Twenty-five plants will be chosen from the current list of ID plants from the BASE LIST and the NURSERY LANDSCAPE LIST. Each participant will be assigned a plant to begin identification. Each participant will remain at each plant for one minute then progress on to the next plant. No participant will be permitted to return to a plant a second time. Handling the plant will result in the student receiving a zero on plant ID. Grading will be done by awarding 10 points for each plant correctly identified. Students will be given a blank sheet of paper to make notes as needed. Only properly bubbled answers on the scantron will be counted.

Part 2: Knowledge Test (250 points) – 25 minutes

The test will consist of 25 multiple choice questions, the answers to which must be found in at least one of the references on the event reference list. The participants will be given 25 minutes to complete the test and each question will be valued at 10 points. Copies of written tests will not be made available to teachers until the summer following the events

Part 3: Practicum (200 points) – 25 minutes

Each participant will identify 10 items from either Tools & Materials or Disorders. Additionally, students will answer 10 multiple choice questions related to either a Disorder or Equipment & Supplies. These questions will not necessarily be the same 10 identification items. Pesticide manuals, equipment manuals, or background scenarios will be given if needed to answer the question. 10 points each will be given for the identification and 10 points for the answer to the question. Students will have 25 minutes to complete the practicum.



Example 1:

The student is presented with some type of pest (insect, weed, and disease). Sitting in front of the participant will be four pesticides or the pesticides labels. Which of the pesticides could be used to control or eliminate the pest?

- A. Use Roundup
- B. Use A Rest
- C. Use Methyl Bromide
- D. Use Talstar

Part 4: Problem Solving (100 points) – 25 minutes

This test will consist of 10 questions to answer or solve with multiple choice answers given. Each question is worth 10 points. At least three and not more than five of these questions should involve reading to a scale; calculations such as square feet, cubic feet, cubic yards, square yards; a number of plants required; or costs of items including tax and discount rates. If a ruler is required, it is to be provided by event officials. No participants will be given extra time. Students will have 25 minutes to complete problem solving.

Phase 2-

At the conclusion of Phase 1, scores will be calculated and the top 10 scoring teams will move on to Phase 2. The score earned in Phase 2 will be added to the team score from Phase 1 to determine the final team placings for the contest.

Part 5: Team Activity (700 points)

This phase is designed to evaluate the team's ability to apply nursery landscape knowledge and skills by completing a variety of hands-on and problem-solving activities. Teams will be given a task that must be accomplished by the team members. The chosen activity will vary from year to year but is not set on a strict rotation schedule. Both objective questions and qualitative evaluations may be included in the task scoring. Additionally, judges will be evaluating participants' technical skills as well as their ability to communicate within their team and work together to accomplish a common goal. The time allotted will vary based on the specific scenario given by the judges. Possible activities are listed below.



State Event Scoring

Phase 1-

<i>Component</i>	<i>Individual Maximum Score</i>	<i>Team Maximum Score</i>
Plant Identification	250	1000
General Knowledge Test	250	1000
Practicum	200	800
Problem Solving	100	400
Total	800	3200

Phase 2-

<i>Component</i>	<i>Team Maximum Score</i>
Team Score from Phase 1	3200
Team Activity	700
Total	3900

Procedure for Determining the State Event Winner When Scores are Tied

In the event a tie score exists, apply the following methods in sequential order until the tie is broken:

1. Compare the total team scores for the problem-solving component and the higher scoring team is the winner.
2. If scores continue to be tied, compare the total team scores for the Plant Identification component and the higher scoring team is the winner.
3. If scores continue to be tied, compare the total team score for the knowledge test and the higher scoring team is the winner.
4. If scores continue to be tied, compare the total team score for the team activity and the higher scoring team is the winner.
5. If these methods fail to break the tie, co-winners will be declared and a run-off event will be held to determine which team will represent North Carolina at the National FFA Convention. The run-off event will follow the same rules as the state event.

Special Note: In the event a tie exists between first, second or third place teams on the regional level, the tied teams will be allowed to participate in the state event.



State Awards

The awards for the state event will be presented annually at the State FFA Convention to include a team 1st, 2nd, and 3rd place plaque and a travel monetary award.

National Career Development Event Participation

State winning teams advancing to the national career development event will be automatically registered for the national event. It is the responsibility of the FFA Chapter Advisor to complete all necessary national certification and waiver forms and return them to the state FFA Coordinator by the assigned due date.

State winning CDE teams that choose not to participate at the national level should contact the state office by Sept. 1 prior to national convention. Teams that fail to inform the state office prior to Sept 1 will be ineligible to participate in that same CDE for the next year (chapters may appeal to the State FFA Board of Directors). Teams that do not compete at the National Convention will be required to pay back the cash travel award.

References

*Carolina Lawns, Circular Ag-69, North Carolina Extension Service.

*Horticulture Today, by Riedel and Driscoll, Goodheart Wilcox Publishers, 2017.

*Introductory Horticulture, Third Edition, by Riley and Shry, Delmar Publishers, 1987.

*Landscaping: Principles and Practices, Third Edition, by Ingels, Delmar Publishers, 1987.



Plant Identification

Floriculture List			Nursery/Landscape List		
Plant #	Botanical Name	Common Name	Plant #	Botanical Name	Common Name
201	<i>Aglaonema commutatum</i>	Aglaonema	301	<i>Aquilegia x hybrida</i>	Columbine
202	<i>Alstroemeria hybrida</i>	Peruvian Lily	302	<i>Buxus microphylla</i>	Littleleaf Boxwood
203	<i>Angelonia hybrida</i>	Angelonia	303	<i>Camellia sasanqua</i>	Sasanqua Camellia
204	<i>Asparagus setaceus</i>	Plume Asparagus Fern	304	<i>Chamaecyparis pisifera</i> 'Gold Mop'	Gold Mop Chamaecyparis
205	<i>Caladium x hortuanum</i>	Fancy Leaved Caladium	305	<i>Cornus kousa</i>	Chinese Dogwood
206	<i>Calibrachoa hybrida</i>	Million Bells	306	<i>Cotoneaster dammeri</i>	Bearberry
207	<i>Celosia argentea</i>	Cockscomb	307	<i>Ginkgo biloba</i>	Ginkgo
208	<i>Chamaedorea elegans</i>	Parlor Palm	308	<i>Gleditsia triacanthos</i> var. <i>inermis</i>	Thornless Honeylocust
209	<i>Codiaeum variegatum</i> var. <i>pictum</i>	Croton	309	<i>Helleborus orientalis</i>	Lenton Rose
210	<i>Crassula argentea</i>	Jade Plant	310	<i>Heuchera</i> species	Coral Bells
211	<i>Cyclamen x persicum</i>	Cyclamen	311	<i>Hibiscus</i> species	Hibiscus
212	<i>Dendrobium</i> cv.	Dendrobium Orchid	312	<i>Hydrangea quercifolia</i>	Oakleaf Hydrangea
213	<i>Dianthus</i> species	Carnation	313	<i>Iberis sempervirens</i>	Candytuft
214	<i>Eucalyptus</i> species	Eucalyptus	314	<i>Juniperus chinensis</i>	Chinese Juniper
215	<i>Euphorbia pulcherrima</i>	Poinsettia	315	<i>Lantana camara</i>	Lantana
216	<i>Fuchsia hybrida</i>	Fuchsia	316	<i>Lavendula angustifolia</i>	Lavender
217	<i>Gerbera jamesonii</i>	Gerber Daisy	317	<i>Loropetalum chinensis</i>	Chinese Fringe Flower
218	<i>Gladiolus x hortulanus</i>	Gladiolus	318	<i>Magnolia x soulangiana</i>	Saucer or Tulip Magnolia
219	<i>Gypsophila elegans</i>	Babys Breath	319	<i>Mahonia bealei</i>	Oregon Grape Holly
220	<i>Hippeastrum hybrid</i>	Amaryllis	320	<i>Pachysandra terminalis</i>	Japanese pachysandra
221	<i>Hoya carnosa</i>	Wax Plant	321	<i>Phlox</i> species	Phlox
222	<i>Ipomoea batatas</i>	Ornamental Sweet potato	322	<i>Pieris japonica</i>	Lily-of-the-Valley Bush or Andromeda
223	<i>Iris xiphium</i>	Dutch Iris	323	<i>Pinus strobus</i>	Eastern White Pine
224	<i>Kalanchoe</i> species	Kalanchoe	324	<i>Prunus laurocerasus</i>	Cherry Laurel
225	<i>Limonium sinuatum</i>	Statice	325	<i>Pyracantha coccinea</i>	Firethorn
226	<i>Phalaenopsis</i> cv.	Phalaenopsis or Moth Orchid	326	<i>Quercus alba</i>	White Oak
227	<i>Plectranthus</i> species	Swedish Ivy	327	<i>Rhaphiolepis umbellata</i>	Indian Hawthorn
228	<i>Portulaca oleracea</i>	Portulaca	328	<i>Rosmarinus officinalis</i>	Rosemary
229	<i>Rumohra adiantiformis</i>	Leatherleaf Fern	329	<i>Rudbeckia fulgida</i>	Black Eyed Susan
230	<i>Saintpaulia ionantha</i>	African Violet	330	<i>Spiraea x bumalda</i>	Bumalda Spirea
231	<i>Sanseveria trifasciata</i>	Snake Plant	331	<i>Taxodium distichum</i>	Bald Cypress
232	<i>Schlumbergera bridgesii</i>	Christmas Cactus	332	<i>Taxus cuspidata</i>	Japanese Yew
233	<i>Schlumbergera truncata</i>	Thanksgiving Cactus	333	<i>Thuja occidentalis</i>	American Arborvitae
234	<i>Sempervivum hybrid</i>	Echeveria or Hen & Chickens	334	<i>Tsuga canadensis</i>	Canadian Hemlock
235	<i>Syngonium podophyllum</i>	Nephtytis or Arrowhead Vine	335	<i>Yucca filamentosa</i>	Adam's Needle



Tools & Materials and Disorders Identification

Tools & Materials		Disorders	
Item #	Item Name	Item #	Disorder Name
401.	Bark Mulch	501.	Annual Bluegrass
402.	Compressed Air Sprayer	502.	Aphid
403.	Drip Tape	503.	Bagworm
404.	Fertilizer, Granular	504.	Black Spot
405.	Ground Limestone	505.	Borer
406.	Hand Pruning Saw	506.	Chickweed
407.	Hedge Shears	507.	Clover
408.	Irrigation Timer	508.	Crabgrass
409.	Landscape Fabric	509.	Dandelion
410.	Loppers	510.	Grub
411.	Oscillating sprinkler	511.	Henbit
412.	Perlite	512.	Iron Deficiency
413.	Pop-up Irrigation Head	513.	Leaf Miner
414.	Pruner, Bypass	514.	Mealy Bug
415.	Safety Goggles/Glasses	515.	Nitrogen Deficiency
416.	Sand	516.	Nutgrass
417.	Scale, Architects	517.	Oxalis
418.	Scale, Engineers	518.	Plantain
419.	Shade Fabric (Shade Cloth)	519.	Pot-Bound Roots
420.	Siphon Proportioner	520.	Purslane
421.	Soaker Hose	521.	Powdery Mildew
422.	Solenoid Valve	522.	Scale
423.	Spade	523.	Slug
424.	Sphagnum Moss	524.	Spider Mite
425.	Spray Suit	525.	Whitefly
426.	Sprinkler, Impulse	526.	Wild Garlic/Onion
427.	Tape Measurer		
428.	Trowel		
429.	Vermiculite		
430.	Water Breaker		



Name: _____ Chapter: _____ Contestant No: _____

Potting Nursery Stock Practicum Scorecard	Possible Points	Points Earned
Potting Process		
Preparation of Plants <ul style="list-style-type: none"> ● Plants selected for quality and uniformity ● Inspects/prunes/grooms damaged parts ● Prunes excess root length ● Handles plants properly 	80	
Placement of Plants in Containers <ul style="list-style-type: none"> ● Plant centered and vertical ● Roots carefully and properly spread ● Plant at proper depth ● Plant roots covered 	80	
Media Filling and Settling <ul style="list-style-type: none"> ● Sufficient media added ● Media settled by bumping or hand firming ● Plant remains stable 	80	
Labeling of Completed Units <ul style="list-style-type: none"> ● Plant (variety) name and date ● Legible 	80	
Safety Practices Applied <ul style="list-style-type: none"> ● Proper cutting technique ● Tool closed when finished ● Minimal clutter/good organization in work area 	80	
Potting Productivity and Response to Questions		
Number of Units Completed	50	
Quality of Units Completed <ul style="list-style-type: none"> ● Overall quality and uniformity of lot 	50	
Response to Questions	50	
Teamwork		
Understanding of Project Goal <ul style="list-style-type: none"> ● All members clearly show understanding of the project goal 	50	
Member Responsibilities Outlined and Defined <ul style="list-style-type: none"> ● All members have activity responsibilities outlined and defined 	50	
Participation in the Team Project Goal <ul style="list-style-type: none"> ● All team members clearly completed task 	50	
Total Points		



Name: _____ Chapter: _____ Contestant No: _____

Propagating Nursery Stock Practicum Scorecard	Possible Points	Points Earned
Propagation Process		
Removal of Cuttings <ul style="list-style-type: none"> ● Selects best quality uniform stock ● Cuts at appropriate lengths ● Makes clean cuts 	80	
Preparation of Cuttings <ul style="list-style-type: none"> ● Leaves stripped/trimmed/groomed as needed ● Proximity of cuts to nodes ● Angled or wounded basal cut ● Cutting/buds not damaged ● Sufficient applied and excess removed ● Hormone kept clean 	80	
Placement of Cuttings in Media <ul style="list-style-type: none"> ● Proper medium depth, as applicable ● Media furrow cut and closed ● Proper sticking depth ● Efficient row and cutting spacing 	80	
Labeling of Completed Units <ul style="list-style-type: none"> ● Plant (variety) name, date, treatment ● Legible 	80	
Safety Practices Applied <ul style="list-style-type: none"> ● Proper cutting technique ● Tool closed when finished ● Minimal clutter in work area 	80	
Potting Productivity and Response to Questions		
Number of Units Completed	50	
Quality of Units Completed <ul style="list-style-type: none"> ● Overall quality and uniformity of lot ● Cutting stable in media 	50	
Response to Questions	50	
Teamwork		
Understanding of Project Goal <ul style="list-style-type: none"> ● All members clearly show understanding of the project goal 	50	
Member Responsibilities Outlined and Defined <ul style="list-style-type: none"> ● All members have activity responsibilities outlined and defined 	50	
Participation in the Team Project Goal <ul style="list-style-type: none"> ● All team members clearly completed task 	50	
Total Points		



Name: _____ Chapter: _____ Contestant No: _____

Plant Layout Scorecard	Possible Points	Points Earned
Placement of Plant Material		
Plant placed within 6 inches +/- of correct placement	90	
Facing of plant material		
Plant faced properly	90	
Handling of Plant Material		
Plant handled properly	90	
Correct View Point		
Overall aesthetic appearance is consistent with plant diagrams	90	
Safety Procedures		
Proper PPE was utilized Proper lifting techniques were used	90	
Productivity and Response to Questions		
Time Completed	50	
Response to Questions	50	
Teamwork		
Understanding of Project Goal <ul style="list-style-type: none"> • All members clearly show understanding of the project goal 	50	
Member Responsibilities Outlined and Defined <ul style="list-style-type: none"> • All members have activity responsibilities outlined and defined 	50	
Participation in the Team Project Goal <ul style="list-style-type: none"> • All team members clearly completed task 	50	
Total Points		



Name: _____ Chapter: _____ Contestant No: _____

Sod Installation Scorecard	Possible Points	Points Earned
Installation Procedure		
Sodded strips adjacent to edges full width	90	
Staggered seams on sod rolls	90	
Knitted seams tightly	90	
Made cuts accurately	90	
Safety Procedures		
Proper PPE was used Proper lifting techniques were used Safe cutting techniques were used	90	
Productivity and Response to Questions		
Time Completed	50	
Response to Questions	50	
Teamwork		
Understanding of Project Goal <ul style="list-style-type: none"> • All members clearly show understanding of the project goal 	50	
Member Responsibilities Outlined and Defined <ul style="list-style-type: none"> • All members have activity responsibilities outlined and defined 	50	
Participation in the Team Project Goal <ul style="list-style-type: none"> • All team members clearly completed task 	50	
Total Points		



Name: _____ Chapter: _____ Contestant No: _____

Nursery Landscape Regional Scorecard

Plant Identification		Tools & Materials OR Disorder Identification	
Plant 1		Item 1	
Plant 2		Item 2	
Plant 3		Item 3	
Plant 4		Item 4	
Plant 5		Item 5	
Plant 6		Item 6	
Plant 7		Item 7	
Plant 8		Item 8	
Plant 9		Item 9	
Plant 10		Item 10	
Plant 11			
Plant 12			
Plant 13			
Plant 14			
Plant 15		Plant ID Score:	<u> /250</u>
Plant 16			
Plant 17		Practicum Score:	<u> /100</u>
Plant 18			
Plant 19			
Plant 20			
Plant 21			
Plant 22			
Plant 23			
Plant 24			
Plant 25			



HORTICULTURE

CDE# 105482

Incorrect Marks Correct Mark

Team Name _____
This sheet is for demonstration and practice only. You must use a real scan sheet for actual competition.

Team Number	State	Last Name	First Name
0 0 0 0			
1 1 1 1	A	A A A A A A A A A A A A	A A A A A A A A
2 2 2 2	B	B B B B B B B B B B B B	B B B B B B B B
3 3 3 3	C	C C C C C C C C C C C C	C C C C C C C C
4 4 4 4	D	D D D D D D D D D D D D	D D D D D D D D
5 5 5 5	E	E E E E E E E E E E E E	E E E E E E E E
6 6 6 6	F	F F F F F F F F F F F F	F F F F F F F F
7 7 7 7	G	G G G G G G G G G G G G	G G G G G G G G
8 8 8 8	H	H H H H H H H H H H H H	H H H H H H H H
9 9 9 9	I	I I I I I I I I I I I I	I I I I I I I I
	J	J J J J J J J J J J J J	J J J J J J J J
	K	K K K K K K K K K K K K	K K K K K K K K
	L	L L L L L L L L L L L L	L L L L L L L L
	M	M M M M M M M M M M M M	M M M M M M M M
	N	N N N N N N N N N N N N	N N N N N N N N
	O	O O O O O O O O O O O O	O O O O O O O O
	P	P P P P P P P P P P P P	P P P P P P P P
	Q	Q Q Q Q Q Q Q Q Q Q Q Q	Q Q Q Q Q Q Q Q
	R	R R R R R R R R R R R R	R R R R R R R R
	S	S S S S S S S S S S S S	S S S S S S S S
	T	T T T T T T T T T T T T	T T T T T T T T
	U	U U U U U U U U U U U U	U U U U U U U U
	V	V V V V V V V V V V V V	V V V V V V V V
	W	W W W W W W W W W W W W	W W W W W W W W
	X	X X X X X X X X X X X X	X X X X X X X X
	Y	Y Y Y Y Y Y Y Y Y Y Y Y	Y Y Y Y Y Y Y Y
	Z	Z Z Z Z Z Z Z Z Z Z Z Z	Z Z Z Z Z Z Z Z

Code

0 0
1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9

Place	Class	Placing Classes									Place	
		1	2	3	4	5	6	7	8	9		
1	1234										1234	1
2	1243										1243	2
3	1324										1324	3
4	1342										1342	4
5	1423										1423	5
6	1432										1432	6
7	2134										2134	7
8	2143										2143	8
9	2314										2314	9
10	2341										2341	10
11	2413										2413	11
12	2431										2431	12
13	3124										3124	13
14	3142										3142	14
15	3214										3214	15
16	3241										3241	16
17	3412										3412	17
18	3421										3421	18
19	4123										4123	19
20	4132										4132	20
21	4213										4213	21
22	4231										4231	22
23	4312										4312	23
24	4321										4321	24

Team Activity

Team	Ind.
0 0 0 0 0 0	
1 1 1 1 1 1	
2 2 2 2 2 2	
3 3 3 3 3 3	
4 4 4 4 4 4	
5 5 5 5 5 5	
6 6 6 6 6 6	
7 7 7 7 7 7	
8 8 8 8 8 8	
9 9 9 9 9 9	

Practicums (Judges)

	1	2	3	4	5	6
0 0 0 0 0 0						
1 1 1 1 1 1						
2 2 2 2 2 2						
3 3 3 3 3 3						
4 4 4 4 4 4						
5 5 5 5 5 5						
6 6 6 6 6 6						
7 7 7 7 7 7						
8 8 8 8 8 8						
9 9 9 9 9 9						

Exam

1 A B C D 26 A B C D
2 A B C D 27 A B C D
3 A B C D 28 A B C D
4 A B C D 29 A B C D
5 A B C D 30 A B C D
6 A B C D 31 A B C D
7 A B C D 32 A B C D
8 A B C D 33 A B C D
9 A B C D 34 A B C D
10 A B C D 35 A B C D
11 A B C D 36 A B C D
12 A B C D 37 A B C D
13 A B C D 38 A B C D
14 A B C D 39 A B C D
15 A B C D 40 A B C D
16 A B C D 41 A B C D
17 A B C D 42 A B C D
18 A B C D 43 A B C D
19 A B C D 44 A B C D
20 A B C D 45 A B C D
21 A B C D 46 A B C D
22 A B C D 47 A B C D
23 A B C D 48 A B C D
24 A B C D 49 A B C D
25 A B C D 50 A B C D

Exam 2/Team

1 A B C D
2 A B C D
3 A B C D
4 A B C D
5 A B C D
6 A B C D
7 A B C D
8 A B C D
9 A B C D
10 A B C D
11 A B C D
12 A B C D
13 A B C D
14 A B C D
15 A B C D
16 A B C D
17 A B C D
18 A B C D
19 A B C D
20 A B C D
21 A B C D
22 A B C D
23 A B C D
24 A B C D
25 A B C D

Assessment and Solution

1 A B C D	6 A B C D	11 A B C D	16 A B C D	21 A B C D
2 A B C D	7 A B C D	12 A B C D	17 A B C D	22 A B C D
3 A B C D	8 A B C D	13 A B C D	18 A B C D	23 A B C D
4 A B C D	9 A B C D	14 A B C D	19 A B C D	24 A B C D
5 A B C D	10 A B C D	15 A B C D	20 A B C D	25 A B C D

