



ENTOMOLOGY

CDE

(Revised April 2023)

PURPOSE

The Entomology Career Development Event is designed to create an interest in career preparation in the entomology field. Students will develop skills in identifying common insects and their significance to people and agriculture.

ELIGIBILITY

The participant must be an active member of a chartered West Virginia FFA Chapter and enrolled in grades 9, 10, 11, or 12. Each chapter may enter one team.

EVENT PROCEDURE

The event will be a team event consisting of four students. Only the top 3 scores will be calculated in the team total. A team may compete with less than 4 members. FFA members will wear official dress.

Under no circumstances will any participants be allowed to handle any of the items in the identification portion of the practicums. Any infraction of this rule will result in team elimination from the event.

No FFA advisors/coaches will be allowed in the area of the contest, but arrangements will be made to view the specimens following the contest.

EVENT MATERIALS

MATERIALS STUDENTS MUST PROVIDE

- Pencils
- Clipboards

INDIVIDUAL PRACTICUMS

IDENTIFICATION PRACTICUM

Participants will complete a 25 question ID test of common economic insects or insect relatives. Specimens will be numbered and contestants will identify common name, host, scientific order and ONE control measure for each insect. LIVE INSECTS MAY BE USED IF AVAILABLE!

| Practicum | Activity | Individual | Team |
|------------------------|----------|------------|------------|
| Insect Identification | ID | 50 | 150 |
| Order Identification | ID | 50 | 150 |
| Host Identification | ID | 50 | 150 |
| Control Identification | ID | 50 | 150 |
| TOTAL | | 200 | 600 |

TIE BREAKERS

In the event of a tie in individual scores, the following events will be used in order to determine award recipients:

INDIVIDUAL

- 1) Insect ID
- 2) Control ID

TEAM

1. TOTAL TEAM SCORE (ALL 4 SCORES COUNTED)
2. Total Team Insect ID Score

INSECT

- 001. Alfalfa Weevil
- 002. Apple Maggot
- 003. Armyworm
- 004. Bagworm
- 005. Bark Beetles
- 006. Bed Bug
- 007. Black Vine Weevil
- 008. Bot Fly
- 009. Boxelder Bug
- 010. Buffalo Gnat
- 011. Bumble Bee
- 012. Cabbage Looper
- 013. Cabbage Maggot
- 014. Carpenter Ant
- 015. Carpenter Bee
- 016. Carpet Beetle
- 017. Cattle Grub (Beef)
- 018. Cattle Grub (Dairy)
- 019. Cereal Leaf Beetle
- 020. Chewing Lice (Beef)
- 021. Chewing Lice (Dairy)
- 022. Chinch Bug
- 023. Clothes Moth
- 024. Clover Mite
- 025. Cluster Fly
- 026. Cockroach
- 027. Codling Moth
- 028. Colorado Potato Beetle
- 029. Corn Earworm
- 030. Corn Leaf Aphid
- 031. Corn Rootworm
- 032. Corn Seed Maggot
- 033. Cutworm
- 022. Chinch Bug
- 023. Clothes Moth
- 024. Clover Mite
- 025. Cluster Fly
- 026. Cockroach
- 027. Codling Moth
- 028. Colorado Potato Beetle
- 029. Corn Earworm
- 030. Corn Leaf Aphid
- 031. Corn Rootworm
- 032. Corn Seed Maggot

INSECT

- 033. Cutworm
- 034. Dragon Fly and Damselfly
- 035. Elm Leaf Beetle
- 036. European Corn Borer
- 037. Face Fly
- 038. Flea
- 039. Flea Beetle
- 040. Flea Beetles
- 041. Gypsy Moth
- 042. Honey Bee
- 043. Horn Fly
- 044. Horse and Deer Fly
- 045. House Fly
- 046. Indian Meal Moth
- 047. Japanese Beetle
- 048. Lace Bug
- 049. Lace Wing
- 050. Lady Bug
- 051. Leafhopper
- 052. Lice (Human)
- 053. Locust Borer
- 054. Mexican Bean Beetle
- 055. Millipede
- 056. Mosquito
- 057. Moth Drain Fly
- 058. Northern Fowl Mite
(Poultry)
- 059. Oriental Fruit Moth
- 060. Peach Tree Borer
- 061. Periodical Cicada
- 062. Plum Curculio
- 063. Poplar leaf weevil
- 064. Potato Aphid
- 065. Potato Leafhopper
- 066. Powder Post Beetle
- 067. Praying Mantis
- 068. San Jose Scale
- 069. Saw-toothed grain beetle
- 070. Scale Insects
- 071. Sheep Ked
- 072. Silverfish
- 073. Sod Webworm
- 074. Sowbug
- 075. Spider

INSECT

- 076. Spider Mites
- 077. Spider Mites
- 078. Squash Bug
- 079. Squash Vine Borer
- 080. Stable Fly
- 081. Striped Cucumber Beetle
- 082. Sucking Lice
- 083. Syrphid Fly
- 084. Tent Caterpillar
- 085. Termites
- 086. Thrips
- 087. Tick
- 088. Tick (Deer and American Dog)
- 089. Squash Vine Borer
- 090. Stable Fly
- 091. Striped Cucumber Beetle
- 092. Sucking Lice
- 093. Syrphid Fly
- 094. Tent Caterpillar
- 095. Termites
- 096. Thrips
- 097. Tick
- 098. Tick (Deer and American Dog)
- 099. Tobacco Budworm
- 100. Tobacco Hornworm
- 101. Tomato Fruitworm
- 102. Tomato Hornworm
- 103. Wasp, Hornet, Yellow Jacket
- 104. White Grub
- 105. Wireworm

ORDER

- 001. Acari
- 002. Araneae
- 003. Blattaria
- 004. Coleoptera
- 005. ~~Dietera~~
- 006. Diptera
- 007. Hemiptera
- 008. Homoptera
- 009. Hymenoptera
- 010. Isopoda
- 011. Isoptera
- 012. Julida
- 013. Lepidoptera
- 014. Mantodea
- 015. Neuroptera
- 016. Odonata
- 017. Phthiraptera (suborder Anoplura)
- 018. Phthiraptera (suborder Mallophaga)
- 019. Siphonaptera
- 020. Thysanoptera
- 021. Thysanura

HOST

- 001. Alfalfa
- 002. Apple
- 003. Bean
- 004. Beneficial Insects
- 005. Corn
- 006. Crucifers
- 007. Cucurbits
- 008. Domestic Animals
- 009. Forest and Shade Tree
- 010. Emerald ash borer
- 011. Household
- 012. Insects of Annoyance and Public Health
- 013. Lawn
- 014. Oats
- 015. Ornamental
- 016. Peach
- 017. Potato
- 018. Tobacco
- 019. Tomato

CONTROLS

001. Abamectin
002. Acephate (Orthene)
003. Acetamiprid (Assail)
004. Aerosol sprays
005. Aerosol sprays (treatment of nest)
006. Animal sprays
007. Animal sprays and dusts
008. Avoid walking through tall grass & weeds
009. Baits
010. Baits/Gels
011. Bath with warm H2O
012. Bifenthrin
013. Boric acid
014. Bt (*Bacillus thuringiensis*)
015. Carbaryl (Sevin)
016. Check and remove by hand
017. Check and treat new animals before
018. Clean drain pipes and traps
019. CM granulovirus (Cyd-X)
020. CO2 baited traps
021. Collars placed around plants
022. Contact a reliable pest control operator
023. Cover young trees with netting or other materials
024. Crop rotation
025. Discard infested materials
026. Dormant horticultural oil
027. Early harvest
028. Eliminate breeding sites
029. Eliminate high moisture conditions
030. Establish tall fescue turf
031. Feed additive insecticides
032. Fly swatter
033. Fumigation
034. Hand removal and destruction
035. Horticultural oil

038. Injectable insecticides
039. Injectable insecticides for non-lactating cattle
040. Insect parasitic nematodes
041. Insect predator
042. Insect repellants
043. Insecticidal seed treatment or soil insecticide at planting
044. Insecticidal shampoos and lotions
045. Insecticidal soap
046. Insecticide impregnated ear tags
047. Insecticide treated collars
048. Kaolin clay (Surround)
049. Keep infested areas clean and dry
050. Keep thatch to a minimum
051. Lavandin oil
052. Limit exposure during dawn and dusk
053. Maintain tight fitting screens
054. Milky spore disease
055. Naphthalene
056. Neonicotinoids
057. Nucleopolyhedrosis virus (NPV)
058. OFM sprayable pheromone
059. Organophosphates
060. Paint exposed wood surfaces
061. Paint, seal, or varnish exposed wood surfaces
062. Paradichlorobenzene
063. Parasitoids
064. Parasitoids and/or pathogens
065. Perimeter spray with miticide
066. Periodic dry cleaning or laundering
067. Pheromone traps
068. Phosmet (Imidan)
069. Plant early
070. Plant early and/or fall plantings
071. Plant pollination
072. Plug entrance holes

CONTROLS

076. Predators and/or parasitoids
077. Promote plant vitality
078. Promote tree vitality
079. Prune and destroy infested plant parts
080. Pyrethroids
081. Pyriproxyfen (Esteem)
082. Removal and destruction of infested items
083. Removal of plant debris after harvest
084. Removal of plant refuse/debris
085. Remove and destroy bags
086. Remove and destroy egg cases
087. Remove flagging damage & destroy clippings
088. Remove grass growing next to foundation of homes
089. Remove nests from branches
090. Remove seed bearing boxelder
091. Remove sheltering sites adjacent to the home
092. Replace moisture-damaged wood
093. Residual surface sprays
094. Resistant plant varieties
095. Row covers
096. Sanitation/Clean-up
097. Sanitization around stable or corral
098. Seal cracks and other openings
099. Self treatment dust bags and oilers
100. Soil insecticide at planting
101. Spinetoram (Delegate)
102. Spinosad
103. Spinosad (Entrust)
104. Spinosad (Tracer)
105. Spring sheering
106. Sticky balls
107. Store dry foods in tightly sealed containers
108. Store dry foods, woolens, furs in containers

Controls

109. Thiamethoxam (Actara, Endigo)
110. Use nit combs to remove lice and their eggs
111. Use properly stored and dried wood
112. Useful product
113. Vacuum/wipe up with damp cloth
114. Walk-through trap
115. Wash and dry clothes and bed linens at high temperature
116. NONE CURRENTLY AVAILABLE

| HOST | INSECT | ORDER | CONTROL |
|--------------------|---------------------------|-------------|---|
| Alfalfa | Alfalfa Weevil | Coleoptera | Parasitoids and/or pathogens Early harvest Pyrethroids |
| | Leafhopper | Homoptera | Resistant plant varieties Early harvest |
| | | | Pyrethroids |
| Apple | Apple Maggot | Diptera | Sticky balls Kaolin clay (Surround) Carbaryl (Sevin) |
| | Codling Moth | Lepidoptera | Pheromone traps CM granulovirus (Cyd-X) Spinetoram (Delegate) Acetamiprid (Assail) |
| | San Jose Scale | Homoptera | Prune and destroy infested plant parts Dormant horticultural oil Pyriproxyfen (Esteem) Pyrethroids |
| Bean | Mexican Bean Beetle | Coleoptera | Plant early and/or fall plantings Acephate (Orthene) Pyrethroids |
| | Spider Mites | Acari | Predators Dormant horticultural oil Abamectin Bifenthrin |
| Beneficial Insects | Dragon Fly and Damsel Fly | Odonata | Insect predator |
| | Syrphid Fly | Diptera | Insect predator |
| | Honey Bee | Hymenoptera | Plant pollination Useful product |
| | Bumble Bee | Hymenoptera | Plant pollination |
| | Lady Bug | Coleoptera | Insect predator |
| | Lace Wing | Neuroptera | Insect predator |
| | Praying Mantis | Mantodea | Insect predator |
| Corn | Corn Earworm | Lepidoptera | Resistant plant varieties Plant early Bt (Bacillus thuringiensis) Carbaryl (Sevin) Pyrethroids |
| | Flea Beetles | Coleoptera | Carbaryl (Sevin) Pyrethroids |
| | European Corn Borer | Lepidoptera | Resistant plant varieties Plant early Bt (Bacillus thuringiensis) Carbaryl (Sevin) Pyrethroids |
| | Corn Seed Maggot | Diptera | Insecticidal seed treatment or soil insecticide at planting |

| HOST | INSECT | ORDER | CONTROL |
|------------------|-------------------------|-------------|---|
| | Wireworm | Coleoptera | Crop rotation Soil insecticide at planting |
| | Armyworm | Lepidoptera | Bt (Bacillus thuringiensis) Carbaryl (Sevin) Pyrethroids |
| | Corn Leaf Aphid | Homoptera | Predators and/or parasitoids Pyrethroids |
| | Corn Rootworm | Coleoptera | Crop rotation Pyrethroids |
| Crucifers | Cabbage Maggot | Diptera | Row covers Insecticidal seed treatment or soil insecticide at planting |
| | Cabbage Looper | Lepidoptera | Parasitoids Bt (Bacillus thuringiensis) Pyrethroids |
| Cucurbits | Striped Cucumber Beetle | Coleoptera | Kaolin clay (Surround) Imidacloprid |
| | Squash Vine Borer | Lepidoptera | Kaolin clay (Surround) Pyrethroids |
| | Squash Bug | Hemiptera | Hand removal and destruction Removal of plant debris after harvest imidacloprid |
| | Cutworm | Lepidoptera | Collars placed around plants Carbaryl (Sevin) Pyrethroids |
| Domestic Animals | Face Fly | Diptera | Insecticide impregnated ear tags Self-treatment dust bags and oilers Feed additive insecticides Animal sprays |
| | Horse and Deer Fly | Diptera | CO2 baited traps Animal sprays |
| | Stable Fly | Diptera | Sanitization around stable or corral Residual surface sprays |
| | Horn Fly | Diptera | Walk-through trap Insecticide impregnated ear tags Self-treatment dust bags and oilers Feed additive insecticides Pour-on insecticides Animal sprays |
| | Cattle Grub (Dairy) | Diptera | Pour-on insecticides for non- lactating cattle |
| | | | Injectible insecticides for non- lactating cattle |

| HOST | INSECT | ORDER | CONTROL |
|-----------------------|---------------------------------|--|--|
| | Cattle Grub (Beef) | Diptera | Pour-on insecticides Injectible insecticides |
| | Sheep Ked | Diptera | Spring sheering Pour-on insecticides Animal sprays and dusts |
| | Chewing Lice (Dairy) | Phthiraptera (suborder Mallophaga) | Check and treat new animals before adding to herd Self treatment dust bags and oilers Pour-on insecticides Animal sprays and dusts |
| | Chewing Lice (Beef) | Phthiraptera (suborder Mallophaga) | Check and treat new animals before adding to herd Self treatment dust bags and oilers Pour-on insecticides Animal sprays and dusts |
| | Sucking Lice | Phthiraptera (suborder Anoplura) | Check and treat new animals before adding to herd Self treatment dust bags and oilers Pour-on insecticides Animal sprays and dusts |
| | Bot Fly | Diptera | Bath with warm H2O Feed additive insecticides |
| | Tick | Acari | Check and remove by hand Animal sprays |
| | Flea | Siphonaptera | Insecticide treated collars Animal sprays and dusts |
| | Northern Fowl Mite (Poultry) | Acari | Animal sprays and dusts |
| Forest and Shade Tree | Tent Caterpillar | Lepidoptera | Remove and destroy egg cases Remove nests from branches Bt (Bacillus thuringiensis) Carbaryl (Sevin) |
| | Locust Borer | Coleoptera | Promote tree vitality Prune and destroy infested plant parts Carbaryl (Sevin) |
| | Poplar leaf weevil | Coleoptera | Imidacloprid Carbaryl (Sevin) Acephate (Orthene) |
| | Gypsy Moth | Lepidoptera | Remove and destroy egg cases Pheromone traps Bt (Bacillus thuringiensis) Nucleopolyhedrosis virus (NPV) Carbaryl (Sevin) |
| | Bark Beetles | Coleoptera | Promote tree vitality Prune and destroy infested plant parts |
| | Periodical Cicada | Homoptera | Cover young trees with netting or other materials Remove flagging damage and destroy chippings |
| | Elm Leaf Beetle | Coleoptera | Imidacloprid Carbaryl (Sevin) |

| HOST | INSECT | ORDER | CONTROL |
|-----------|--------------------------|-------------|--|
| Household | Indian Meal Moth | Lepidoptera | Discard infested materials Store dry foods in tightly sealed containers Sanitation/Clean-up |
| | Clothes Moth | Lepidoptera | Periodic dry cleaning or laundering Lavandin oil Naphthalene Paradichlorobenzene |
| | Saw-toothed grain beetle | Coleoptera | Discard infested materials Store dry foods in tightly sealed containers Sanitation/Clean-up |
| | Millipede | Julida | Removal of plant refuse/debris Seal cracks and other openings Hand removal and destruction |
| | Silverfish | Thysanura | Keep infested areas clean and dry Boric acid Pyrethroids |
| | Moth Drain Fly | Diptera | Clean drain pipes and traps Pyrethroids |
| | Termites | Isoptera | Contact a reliable pest control operator |
| | Clover Mite | Acari | Remove grass growing next to foundation of homes Perimeter spray with miticide Vacuum/wipe up with damp cloth |
| | Carpet Beetle | Coleoptera | Sanitation/Clean-up Periodic dry cleaning or laundering Store dry foods, woolens, furs in tightly sealed containers Pyrethroids |
| | Carpenter Ant | Hymenoptera | Eliminate high moisture conditions Replace moisture-damaged wood Baits Pyrethroids |
| | Cockroach | Blattaria | Sanitation/Clean-up Boric Acid Baits/Gels |
| | Sowbug | Isopoda | Removal of plant refuse/debris Seal cracks and other openings Hand removal and destruction |
| | Carpenter Bee | Hymenoptera | Paint exposed wood surfaces Plug entrance holes Carbaryl (Sevin) Pyrethroids |
| | Powder Post Beetle | Coleoptera | Use properly stored and dried wood Paint, seal, or varnish exposed wood surfaces Removal and destruction of infested items Fumigation |
| | Boxelder Bug | Hemiptera | Remove seed bearing boxelder Seal cracks and other openings Maintain tight fitting screens Carbaryl (Sevin) |
| | Cluster Fly | Diptera | Seal cracks and other openings Maintain tight fitting screens Fly swatter Aerosol spray |

| HOST | INSECT | ORDER | CONTROL |
|--|------------------------------|----------------------------------|---|
| Insects of Annoyance and Public Health | Mosquito | Diptera | Eliminate breeding sites Limit exposure during dawn and dusk Insect repellants |
| | Tick (Deer and American Dog) | Acari | Insect repellants Avoid walking through tall grass and weeds Check and remove by hand |
| | Buffalo Gnat | Diptera | Insect repellants |
| | Bed Bug | Hemiptera | Sanitation/Clean-up |
| | | | Wash and dry clothes and bed linens at high temperature Pyrethroids Contact a reliable pest control operator |
| | Lice (Human) | Phthiraptera (suborder Anoplura) | Use nit combs to remove lice and their eggs Wash and dry clothes and bed linens at high temperature Insecticidal shampoos and lotions |
| | House Fly | Diptera | Sanitation/Clean-up Fly swatter Aerosol sprays |
| | Wasp, Hornet, Yellow Jacket | Hymenoptera | Fly swatter Aerosol sprays (treatment of nest) |
| | Spider | Araneae | Seal cracks and other openings Maintain tight fitting screens Remove sheltering sites adjacent to the home Aerosol sprays |
| Lawn | Chinch Bug | Hemiptera | Keep thatch to a minimum Predators Carbaryl (Sevin) imidacloprid (Merit) |
| | White Grub | Coleoptera | Establish tall fescue turf Insect parasitic nematodes Milky spore disease imidacloprid (Merit) |
| | Sod Webworm | Lepidoptera | Establish tall fescue turf Insect parasitic nematodes Bt (Bacillus thuringiensis) Carbaryl (Sevin) |
| Oats | Cereal Leaf Beetle | Coleoptera | Predators and/or parasitoids Carbaryl (Sevin) Pyrethroids |
| Ornamental | Bagworm | Lepidoptera | Remove and destroy bags Bt (Bacillus thuringiensis) Carbaryl (Sevin) |
| | Lace Bug | Hemiptera | Promote tree vitality Insecticidal soap Horticultural oil Carbaryl (Sevin) |

| HOST | INSECT | ORDER | CONTROL |
|---------|------------------------|--------------|---|
| | Scale Insects | Homoptera | Prune and destroy infested plant parts Dormant horticultural oil Imidacloprid |
| | Black Vine Weevil | Coleoptera | Insect parasitic nematodes Imidacloprid Pyrethroids |
| | Thrips | Thysanoptera | Predators Spinosad Imidacloprid Pyrethroids |
| | Japanese Beetle | Coleoptera | Milky spore disease Carbaryl (Sevin) Pyrethroids |
| | Spider Mites | Acari | Predators Dormant horticultural oil Insecticidal soap Abamectin |
| Peach | Plum Curculio | Coleoptera | Thiamethoxam (Actara, Endigo) Phosmet (Imidan) |
| | Peach Tree Borer | Lepidoptera | Pheromone traps Organophosphates Pyrethroids |
| | Oriental Fruit Moth | Lepidoptera | Pheromone traps OFM sprayable pheromone Spinetoram (Delegate) Pyrethroids |
| Potato | Potato Leafhopper | Homoptera | Promote plant vitality Neonicotinoids Pyrethroids |
| | Colorado Potato Beetle | Coleoptera | Crop rotation Spinosad (Entrust) Neonicotinoids |
| | Potato Aphid | Homoptera | Predators and/or parasitoids Neonicotinoids |
| Tobacco | Tobacco Hornworm | Lepidoptera | Hand removal and destruction Predators and/or parasitoids Bt (Bacillus thuringiensis) Bifenthrin |
| | Tobacco Budworm | Lepidoptera | Predators and/or parasitoids Spinosad (Tracer) Imidacloprid |
| Tomato | Tomato Hornworm | Lepidoptera | Hand removal and destruction Predators and/or parasitoids Bt (Bacillus thuringiensis) Bifenthrin |
| | Tomato Fruitworm | Lepidoptera | Parasitoids Bt (Bacillus thuringiensis) Spinosad (Entrust) Bifenthrin |
| | Flea Beetle | Coleoptera | Carbaryl (Sevin) Pyrethroids |



HORTICULTURE

CDE# 105482

Incorrect Marks Correct Mark
 X

Team Name

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

| Team Number | | | |
|-------------|---|---|---|
| 0 | 0 | 0 | 0 |
| 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 |
| 4 | 4 | 4 | 4 |
| 5 | 5 | 5 | 5 |
| 6 | 6 | 6 | 6 |
| 7 | 7 | 7 | 7 |
| 8 | 8 | 8 | 8 |
| 9 | 9 | 9 | 9 |

| Code | |
|------|---|
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |

| State | Last Name | First Name |
|-------|-----------|------------|
| | | |
| A | A | A |
| B | B | B |
| C | C | C |
| D | D | D |
| E | E | E |
| F | F | F |
| G | G | G |
| H | H | H |
| I | I | I |
| J | J | J |
| K | K | K |
| L | L | L |
| M | M | M |
| N | N | N |
| O | O | O |
| P | P | P |
| Q | Q | Q |
| R | R | R |
| S | S | S |
| T | T | T |
| U | U | U |
| V | V | V |
| W | W | W |
| X | X | X |
| Y | Y | Y |
| Z | Z | Z |

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

| 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 |
| 2 | A B C D | 7 | A B C D | 12 | A B C D |
| 3 | A B C D | 8 | A B C D | 13 | A B C D |
| 4 | A B C D | 9 | A B C D | 14 | A B C D |
| 5 | A B C D | 10 | A B C D | 15 | A B C D |
| 16 | A B C D | 21 | A B C D | 26 | A B C D |
| 17 | A B C D | 22 | A B C D | 27 | A B C D |
| 18 | A B C D | 23 | A B C D | 28 | A B C D |
| 19 | A B C D | 24 | A B C D | 29 | A B C D |
| 20 | A B C D | 25 | A B C D | 30 | A B C D |

Identification A

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| Number of Specimen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 25 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | | |

Identification B

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
| Number of Specimen | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | |
| | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | |
| | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 25 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | | |